TABLE 9.0 SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

TABLE 9.1.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Current

Receptor Population: Trespasser Receptor Age: Adolescent (Ages 9-18)

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog	enic Risk		Chemical		Non-Card	inogenic Hazai	d Quotient	
	Nicusaini	7 34.11		ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Tota
Soils	Surface Soli/ Sludge	Lagoon 1	Вепzо(а)ругепе	3E-08		5E-08	8E-08	Benzo(a)pyrene	N/A	N/A		N/A	N/A
	Gidage		Dioxin TEQ	2E-06		5E-07	2E-06	Dioxin TEQ	N/A	N/A	••	N/A	N/A
			Antimony	N/A		·	N/A	Antimony	Blood	2E-03	••	••	2E-03
			Arsenic	1E-06		3E-07	15-06	Arsenic	Skin	2E-02	••	5E-03	2E-02
			Cadmium	N/A		N/A	N/A	Çadmium	Kidney	3E-03		3E-03	6E-03
			Chromium	N/A			N/A	Chromium	NOAEL	5E-01	[5E-01
			Manganese	N/A			N/A	Manganese	Nervous System	5E-03	••	••	6E-03
			Mercury	N/A	•••		N/A	Mercury	Nervous System	7E-03	••	-•	7E-03
			Thallium	N/A			N/A	Thailium	NOAEL	6E-02			6E•02
			(total)	3E-06		9E-07	4E-06	(Total)		6E-01		8E-03	6E-01
urface Water	Surface Water	Lagoon 1	Arsenic			5E-09	5E-09	Arsenic	Skin	••	4.	8E-05	8É-05
			Manganese			N/A	N/A	Manganese	Nervous System			1E-02	1E-02
			Mercury	••		N/A	N/A	Mercury	Immune System			2E-04	2E-04
			Thallium .			N/A	N/A	Thallium	NOAEL			2E-04	2E-04
			(total)	**		5E-09	5E-09	(Total			•	1E-02	1E-02
				Total Risk Ac	ross Surface	Soil/Sludge	4E-06	То	tal Hazard Index A	cross All Med	lia and Ali Expo	osure Routes	6E-01
- 11-4 (T-4-1 D1-	de Anesan Pur		EE 00	11					

-- = Not Evaluated

N/A = Not Applicable

Total Risk Across Surface Water

Total Risk Across All Media and All Exposure Routes

5E-09 4E-06

Total Skin HI = 2E-02 Total Nervous System HI = 2E-02 Total Immune System HI = 2E-04 Total Kidney HI = 6E-03 Total Blood HI # 2E-03 Total Growth HI = N/A Total Liver HI = N/A

TABLE 9.1.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Current Receptor Population: Trespasser Receptor Age: Adolescent (Ages 9-18)

Medium	Exposure Medium	Exposure Point	Chemical		Carcinogo	enic Risk		Chemical		Non-Card	inogenic Haza	rd Quotient	
				Ingestion	inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	inhalation	Dermal	Exposure Routes Total
Soils	Surface Soil/ Sludge	Lagoon 1	Benzo(a)pyrene	4E-09		1E-08	2E-08	Benzo(a)pyrene	N/A	N/A		N/A	N/A
			Dioxin TEQ	5E-08		3E-08	9E-08	Dioxin TEQ	N/A	N/A		N/A	N/A
			Antimony	N/A			N/A	Antimony	Blood	5E-04			5E-04
			Arsenic	1E-07		8E-08	2E-07	Arsenic	Skin	4E-03		3E-03	6E-03
!			Cadmium	N/A		N/A	N/A	Cadmium	Kidney	2E-04		5E-04	8E-04
			Chromium	N/A			N/A	Chromium	NOAEL	4E-02			4E-02
			Manganese	N/A			N/A	Manganese	Nervous System	1E-03			1E-03
		•	Mercury	N/A		• -	N/A	Mercury	Nervous System	5E-04	٧-	•	6E-04
			Thalium	N/A			N/A	Thallium	NOAEL	6E-03			6E-03
			(total)	2E-07		1E-07	3E-07	(Total)		5E-02	••	3E-03	5E-02
Surface Water	Surface Water	Lagoon 1	Arsenic			9E-10	9E-10	Arsenic	Skin			3E-05	3E-05
			Manganese	••		N/A	N/A	Manganese	Nervous System			4E-03	4E-03
			Mercury			N/A	N/A	Mercury	Immune System		•	6E-05	6E-05
			Thallium			N/A	N/A	Thaillum	NOAEL			7E-05	7E-05
			(total)			9E-10	9E-10	(Total)				4E-03	4E-03
				Total Risk Ac	ross Surface S	Soil/Sludge	3E-07	Tot	al Hazard Index A	cross All Med	dia and All Exp	osure Routes	6E-02

-- = Not Evaluated Total Risk Across Surface Water

N/A = Not Applicable Total Risk Across All Media and All Exposure Routes

Total Skin HI = 6E-03

Total Nervous System HI = 5E-03

Total Immune System HI = 6E-05

Total Kidney Hi = 8E-04

Total Blood HI = 5E-04

Total Growth HI = N/A

Total Liver HI = N/A

9E-10

3E-07

TABLE 9.2.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Current Receptor Population: Trespasser Receptor Age: Adolescent (Ages 9-18)

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog	enic Risk		Chemical		Non-Caro	inogenic Haza	rd Quatient	
	(VIBGILIT)	r-out.		Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Spils	Surface Soil/ Sludge	Lagoon 2	Dioxin TEQ	2E-06		7E-07	3E-06	Digxin TEQ	N/A	N/A		N/A	N/A
	0.0050		Агѕеліс	3E-07		1E-07	4E-07	Arseniç	Skin	5E-03		2E-03	7E-03
			Cadmium	N/A		N/A	N/A	Cadmium	Kidney	1E-03		1E-03	2E-03
			Chromium	N/A			N/A	Chromlum	NOAEL	1E-01		·-	1E-01
•			Cyanide	N/A	:		N/A	Cyanide	Nervous System	5E-05			5E-05
			Manganese	N/A			N/A	Manganese	Nervous System	1E-02			1E-02
] :			Mercury	N/A			N/A	Mercury	Nervous System	5E-03			5E-03
			Thallium	N/A			N/A	Thallium	NOAEL	8E-03		• •	8E-03
			(total)	2E-06		8E-07	3E-06	(Tota	D .	1臣-01		3E-03	1E-01
Surface Water	Surface Water	Lagoon 2	Dioxin TEQ	••		4E-07	4E-07	Dioxin TEQ	N/A		••	N/A	N/A
			Manganese			N/A	N/A	Manganese	Nervous System			8E-03	8E-03
ļ			(total)			4E-07	4E-07	(Tota	I)	••	•	8E-03	8E-03
	·			Total Risk Ad	ross Surface	Soil/Sludge	3E-06	Т	otal Hazard Index A	cross All Me	dia and All Exp	osure Routes	1É-01
= Not Evalua	ited			Total Ri	isk Across Sur	face Water	4E-07][
N/A = Not Applic	cable		Total Ri	isk Across All Media	and All Expos	ure Routes	4E-06				-	Fotal Skin HI =	7E-03
											Total Nervou	s System HI ≖	2E-02
											Total Immun	e System HI =	N/A
								•			Tol	al Kidney HI =	2E-03
											ŤĊ	otal Blood HI =	N/A

N/A

N/A

Total Growth HI =

Total Liver HI =

TABLE 9.2.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCS CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Current Receptor Population: Trespasser Receptor Age: Adolescent (Ages 9-18)

Medium	Exposure Medium	`Exposure Point	Chemical		Carcinog	enic Risk		Chemical		Non-Card	inogenic Hazar	d Quotient	
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soils	Surface Soil/ Sludge	Lagoon 2	Dioxin TEQ	3É-07		2E-07	4E-07	Dioxin TEQ	N/A	N/A	••	N/A	N/A
			Arsenic	4E-08		3E-08	7E-08	Arsenic	Skin	1€-03		8E-04	2E-03
			Cadmium	N/A		N/A	N/A	Cadmium	Kidney	3Ë-04		6E-04	9E-04
			Chromium	N/A			N/A	Chromium	NOAEL	3E-02			3E-02
		•	Cyanide	N/A			N/A	Cyanide	Nervous System	2€-06			2E-06
			Manganese	N/A			N/A	Manganese	Nervous System	3€-03	٠-		3E-03
			Mercury	N/A	٠.		N/A	Mercury	Nervous System	5E-04			5E-04
	,		Thallium	N/A		••	N/A	Thallium	NOAEL	2E-03			2E-03
			(total	3E-07		2E-07	5€-07	(Total)		3E-02		1E-03	3E-02
Surface Water	Surface Water	Lagoon 2	Dioxin TEQ			8E-08	8E-08	Dioxin TEQ	N/A	••	••	N/A	N/A
			Manganese			N/A	N/A	Manganese	Nervous System			3E-03	3E-03
			(total			8E-08	8E-08	(Total)				3E-03	3E-03
<u></u>	1			Total Risk Ag	ross Surface	Soil/Sludge	5E-07	Τ̈́o	tal Hazard Index A	cross All Med	da and All Expe	sure Routes	4E-02

 Total Risk Across Surface Soil/Sludge
 5E-07

 •• ≠ Not Evaluated
 Total Risk Across Surface Water
 8E-08

 N/A ≠ Not Applicable
 Total Risk Across All Media and All Exposure Routes
 6E-07

Total Skin HI = 2E-03

Total Nervous System HI = 6E-03

Total Immune System HI = N/A

Total Kidney HI = 9E-04

Total Blood HI = N/A

Total Growth HI = N/A

Total Liver HI = N/A

TABLE 9,3,RMÉ

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Current Receptor Population: Trespasser Receptor Age: Adolescent (Ages 9-18)

Medium	Exposure Medlum	Exposure Point	Chemical		Carcinog	enic Risk		Chemical		Non-Card	inogenic Hazai	rd Quotient	٠
	Medicini	Four		Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Demal	Exposure Routes Total
Solls	Surface Soil/ Sludge	Lagoon 3	Dioxin TEQ	9E-07		3E-07	1E-06	Dioxin TEQ	N/A	N/A		N/A	N/A
ļ	0.0090		Arsenic	7E-07		2E-07	1E-06	Arsenic	Şkin	1E-02		4E-03	2E-02
			Chromium	N/A			N/A	Chromlum	NOAEL	3E-02			3E-02
			Manganese	N/A			N/A .	Manganese	Nervous System	5E-03			5E-03
			Mercury	N/A			N/A	Mercury	Nervous System	2E-02			2E-02
			(total)	2E-06		5E-07	2E-06	(Tota	D	6E-02	4	4E-03	7E-02
Surface Waler	Surface Water	Lagoon 3	No samples					No samples					
			(total)				N/A	(Tota	0	**			N/A
	<u></u>			Total Risk A	cross Surface	Soil/Sludge	2E-06	Т	otal Hazard Index A	cross All Med	lia and All Exp	osure Routes	7E-02

-- = Not Evaluated

N/A = Not Applicable

Total Skin-H! = 2E-02

Total Nervous System HI = 2E-02

Total Immune System HI = N/A

Total Kidney HI = N/A

Total Blood HI = N/A

Total Growth HI = N/A

Total Liver HI = N/A

TABLE 9.3.CT

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe; Current Receptor Population: Trespasser Receptor Age: Adolescent (Ages 9-18)

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog	enic Risk		Chemical	ı		Non-Caro	inogenic Haza	rd Quotient	
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Prim Target		Ingestion	Inhalation	Dermal	Exposure Routes Total
Solls	Surface Soil/ Sludge	Lagoon 3	Dioxin TEQ	3E-08		2E-08	4E-08	Dioxin TEQ	N	/A	N/A		N/A	N/A
			Arsenic	6E-08		4E-08	1E-07	Arsenic	Sk	dn -	2E-03		1E-03	3E-03
			Chromlum	N/A		••	N/A	Chromium	NOA	٩EL	4E-03			4E-03
			Manganese	N/A			N/A	Manganese	Nervous	System	9E-04		. <i>.</i>	9E-04
			Mercury	N/A			N/A	Mercury	Nervous	System	9E-04			9E-04
			(lotal)	9E-08		6E-08	1E-07		(Total)		8E-03		1E-03	9E-03
Surface Water	Surface Water	Lagoon 3	No samples					No samples		•				
			(total)				N/A		(Total)		••	w -		N/A
**************************************	<u> </u>			Total Risk A	cross Surface :	Soil/Sludge	1E-07		Total Hazard	Index A	cross All Med	ila and All Exp	osure Routes	9E-03
= Not Evalua	ted			Total F	lisk Across Sur	face Water	N/A							
N/A = Not Applic	cable		Total Ri	sk Across All Media	and All Expos	ure Routes						1	Total Skin HI =	3E-03

Total Skin HI =

Total Nervous System HI =

Total Immune System HI =

Total Kidney HI =

Total Blood Hi = N/A

Total Growth Hi = N/A

Total Liver Hi = N/A

2E-03

N/A

N/A

of 1

3 (Table 9,3.CT)

09/27/7

TABLE 9.4.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Current Receptor Population: Trespasser Receptor Age: Adolescent (Ages 9-18)

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog	enic Risk		Chemical		Non-Card	inogenic Hazar	d Quotient	
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soils	Surface Soil/	Lagoon 4	Benzo(a)anthracene	8 E -09		1E-08	2E-08	Benzo(a)anthracene	N/A	N/A		N/A	N/A
	Sludge		Benzo(a)pyrene	8 E-0 8		1E-07	2E-07	Benzo(a)pyrene	N/A	N/A		N/A	N/A
			Benzo(b)fluoranthene	8E-09		1E-08	2E-08	Benzo(b)fluoranthene	N/A	N/A		N/A	N/A
			Dibenz(a,h)anthracene	BE-08		1E-07	2E-07	Dibenz(a,h)anthracene	N/A	N/A		N/A	N/A
			indeno(1,2.3-cd)pyrene	8E-09		1E-08	2E-08	Indeno(1,2,3-cd)pyrene	N/A	N/A		N/A	N/A
			Dioxin TEQ	6 E -06		2E-06	8E-06	Dioxin TEQ	N/A	N/A		N/A	N/A
			Arsenic	3E-07		1E-07	4E-07	Arsenic	Skin	5E-03		2E-03	6E-03
	İ		Cadmium	N/A		N/A	N/A	Cadmium	Kidney	6E-03		7E-03	1E-02
			Chromium	N/A			N/A	Chromium	NOAEL	6E-01	;		6E-01
			Manganese	N/A			N/A	Manganese	Nervous System	4E-03	;		4E-03
			Mercury	N/A			N/A	Mercury	Nervous System	7E-03	-•	• •	7E-03
			Thatium	N/A		••	N/A	Thallium	NOAEL	3E-02			3E-02
			(total)	6E-06		2E-06	9 E -06	(Total)		6E-01		9E-03	6E-01
Surface Water	Surface Waler	Lagoon 4	Dioxin TEQ			3E-08	3E-08	Díoxin TEQ	N/A			N/A	N/A
			Manganese			N/A	N/A	- Manganese	Nervous System			1E-02	1E-02
			Mercury			N/A	N/A	Mercury	Immune System			1E-04	1E-04
			(total)		••	3E-08	3E-08	(Total)			••	1E-02	1E-02
				Total Risk Ad	ross Surface	Soil/Studge	9E-05 .	Tot	al Hazard Index Ad	cross All Mer	tia and All Expo	sure Roules	6E-01

 Total Risk Across Surface Soil/Studge
 9E-05

 -- = Not Evaluated
 Total Risk Across Surface Water
 3E-08

 N/A = Not Applicable
 Total Risk Across All Media and All Exposure Routes
 9E-06

Total Skin HI ≈ 6E-03

Total Nervous System HI = 2E-02

Total Immune System HI = 1E-04

Total Kidney HI = 1E-02

Total Blood HI □ N/A

Total Growth HI = N/A

TABLE 9.4.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCS CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Current Receptor Population: Trespasser Receptor Age: Adolescent (Ages 9-18)

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog	enic Risk		Chemical		Non-Card	inogenic Hazar	d Quotient	
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soils	Surface Soil/	Lagoon 4	Benzo(a)anthracene	1E-09		3E-09	4E-09	Benzo(a)anthracene	N/A	N/A		N/A	N/A
	Sludge	_	Benzo(a)pyrene	1E-08		3E-08	4E-08	Benzo(a)pyrene	N/A	N/A		N/A	N/A
	_		Benzo(b)fluoranthene	1E-09		3E-09	4E-09	Benzo(b)fluoranthene	N/A	N/A	••	N/A	N/A
			Dibenz(a,h)anthracene	15-08		3E-08	4E-08	Dibenz(a,h)anthracene	N/A	N/A		N/A	N/A
			Indeno(1,2,3-cd)pyrene	1E-09	••	3E-09	4E-09	indeno(1,2,3-cd)pyrene	N/A	N/A		N/A	N/A
			Dioxin TEQ	2E-07		1E-07	3E-07	Dioxin TEQ	N/A	N/A		N/A	N/A
			Arsenic	4E-08		3É-08	6 E -08	Arsenic	Skin	1E-03	••	8E-04	2€-03
			Cadmium	N/A		N/A	N/A	Cadmium	Kidney	2E-03		3E-03	5E-03
			Chromium	N/A			N/A	Chromium	NOAEL	1E-01	• •		1E-01
			Manganese	N/A			N/A	Manganese	Nervous System	9E-04	- <i>-</i>		9E-04
			Mercury	N/A			N/A	Mercury	Nervous System	2E-03			2E-03
			Thallium	N/A			N/A	Thallium	NOAEL	7E-03			7É-03
			(total)	25-07		2E-07	4E-07	(Total)		2E-01		4E-03	2E-01
Surface Water	Surface Water	Lagoon 4	Dioxin TEQ	••		7E-09	7E-09	Dioxin TEQ	N/A			N/A	N/A
			Manganese			N/A	N/A	Manganese	Nervous System			2E-03	25-03
			Mercury			N/A	N/A	Mercury	Immune System			2E-05	2E-05
			(total)			7E-09	7E-09	(Total)		••		2E-03	2Ë-03
<u> </u>		·	<u> </u>	Total Risk Ad	ross Surface	Soil/Sludge	4E-07	Tot	al Hazard Index A	cross All Mer	lia and Ali Expo	sure Routes	2E-01

-- = Not Evaluated N/A = Not Applicable Total Risk Across Surface Water

Total Risk Across All Media and All Exposure Routes

Total Skin HI = 2E-03

Total Nervous System HI = 4E-03

Total Immune System HI = 2E-05

Total Kidney HI = 5E-03

Total Blood HI = N/A

Total Growth HI = N/A

Total Liver HI ≈ N/A

7Ę-09

5E-07

TABLE 9.5.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe; Current

Receptor Population: Trespasser Receptor Age: Adolescent (Ages 9-18)

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog	enic Risk		Chemical		Non-Caro	inogenic Hazaı	rd Quotlent	
	Mediditi	Font		Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soils	Surface Soil/	l.agoon 5	Benzo(a)pyrene	2E-08		3E-08	6E-08	Berizo(a)pyrene	N/A	N/A	••	N/A	N/A
	Sludge		Pentachiorophenol	4E-08		1E-07	1E-07	Pentachiorophenol	Kidney	8E-05		25-04	3E-04
	;		Dioxin TEQ	2E-05		6E-06	2E-05	Dioxin TEQ	N/A	N/A		N/A	N/A
			Antimony	N/A			N/A	Antimony	Blood	1E-02			1E-02
			Arsenic	3E-07		8E-08	3E-07	Arsenic	Skin	4E-03		1 E- 03	5E-03
			Cadmium	N/A		N/A	N/A	Cadmlum	Kidney	1E-02		1Ė-02	3E-02
			Chromium	N/A			N/A	Chromium	NOAEL	2E+00			2E+00
l i			Manganese .	N/A			N/A	Manganese	Nervous System	1E-02			1E-02
}			Thailium	N/A			N/A	Thailium	NOAEL	8E-02		• •	BE-02
			(total)	2E-05		6E-06	2E-05	(Tota)	2E+00	••	2E-02	2E+00
Surface Water	Surface Water	Lagoon 5	Dioxin TEQ			3E-07	3E-07	Dioxin TEQ	N/A	••		N/A	N/A
			Chromium			N/A	N/A	Chromium	NOAEL	••		1E-05	1E-05
			Manganese			N/A	N/A	Manganese	Nervous System			3E-03	3E-03
			Mercury	••		N/A	N/A	Mercury	Immune System			1E-04	1E+04
			(total)	• •		3E-07	3E-07	(Tota	3)	••	••	3E-03	3E-03
				Total Risk Ad	ross Surface	Soil/Sludge	2E-05	Т	otal Hazard Index A	cross All Med	lia and All Expo	sure Routes	2E+00

-- = Not Evaluated

N/A = Not Applicable

Total Risk Across Surface Water

Total Risk Across All Media and All Exposure Routes

Total Skin HI = 5E-03 Total Nervous System HI = 2E-02 Total Immune System HI = 1E-04 Total Kidney HI = 3E-02 Total Blood HI = 1E-02 Total Growth HI = N/A Total Liver HI = N/A

3E-07 2E-05

TABLE 9.5,CT

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe; Current Receptor Population: Trespasser Receptor Age: Adolescent (Ages 9-18)

Medium	Expasure Medium	Exposure Point	Chemical		Carcinog	enic Risk		Chemical		Non-Caro	inogenic Haza	rd Quotient	
				Ingestion	Inhalation	Dermal	Exposure	1	Primary	Ingestion	Inhalation	Dermai	Exposure
							Routes Total	<u></u>	Target Organ				Routes Total
Soils	Surface Soil/	Lagoon 5	Benzo(a)pyrene	3E-09		9E-09	1E-08	Benzo(a)pyrene	N/A	N/A		N/A	N/A
	Sludge		Penlachlorophenol	2E-09		8E-09	1E-08	Pentachlorophenol	Kidney	6E-06		3E-05	4E-05
			Dioxin TEQ	1E-06		7E-07	2E-06	Dioxin TEQ	N/A	N/A		N/A	N/A
			Antimony	N/A			N/A	Antimony	Blood	1E-03			. 1E-03
			Arsenic	2E-08		1E-08	3E-08	Arsenic	Skin	5E-04		4E-04	9 E- 04
			Cadmium	N/A	1	N/A	N/A	Cadmium	Kidney	8E-04		2E-03	3E-03
			Chromium	N/A			N/A	Chromium	NOAEL	1E-01			1E-01
			Manganese	N/A			N/A	Manganese	Nervous System	1E-03		٠.	1E-03
			Thallium	N/A			N/A	Thallium	NOAEL	1E-02			1E-02
			(total)	1E-06		7E-07	2E-06	(Total		1E-01		2E-03	1E-01
Surface Water	Surface Water	Lagoon 5	Dioxin TEQ			7E-08	7E-08	Dioxin TEQ	N/A			N/A	N/A
			Chromium			N/A	N/A	Chromium	NOAEL	••		4E-06	4E-06
			Manganese			N/A	N/A	Manganese	Nervous System			9E-04	9E-04
			Mercury			N/A	N/A	Mercury	Immune System			3E-05	3E-05
			(total)			7E-08	7E-08	(Total)			1E-03	1E-03
				Total Risk Ac	ross Surface	Soil/Sludge	2E-06	Тс	tal Hazard Index A	cross All Med	dia and All Exp	osure Routes	1E-01

-- = Not Evaluated

N/A = Not Applicable

Total Risk Across Surface Water

Total Risk Across All Media and All Exposure Routes

7E-06 2E-06

Total Skin HI = 9E-04 Total Nervous System HI = 2E-03 Total Immune System H! = 3E-05 3E-03 Total Kidney HI≃ Total Blood HI = 1E-03 Total Growth HI = N/A Total Liver HI = N/A

TABLE 9.6.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Current

Receptor Population: Trespasser Receptor Age: Adolescent (Ages 9-18)

Non-Carcinogenic Hazard Quotient Medium Exposure Exposure Chemical Cardnogenic Risk Chemical Medium Point Darmai Inhalation Dermai Exposure Primary Ingestion Inhalation Exposure Ingestion Routes Total Routes Total Target Organ N/A N/A N/A Surface Soil Surface Soil Warehouse Area Benzo(a)anthracene 3E-08 4E-08 7E-08 Benzo(a)anthracene N/A N/A N/A N/A N/A Benzo(a)pyrene 2E-07 3E-07 6E-07 Benzo(a)pyrene - -- -N/A Benzo(b)fluoranthene 3E-08 4E-08 6E-08 Benzo(b)fluoranthene N/A N/A N/A - -N/A N/A Dibenz(a,h)anthracene 7E-08 Dibenz(a,h)anthracene N/A N/A - -3E-08 4E-08 Dioxin TEQ N/A N/A Dioxin TEQ 8E-08 2E-08 1E-07 N/A N/A - -1E-02 5E-07 2E-07 6E-07 Arsenic Skin 7E-03 - -2E-03 Arsenic . . 1E-02 N/A Chromium NOAEL 1E-02 . . Chromlum N/A 6E-03 N/A Manganese Nervous System 6E-03 Manganese N/A

6E-07

2E-06

Total Risk Across All Media and All Exposure Routes 2E-06

(total)

9É-07

Total Hazard Index Across All Media and All Exposure Routes

- -

2E-02

(Total

-- = Not Evaluated

N/A = Not Applicable

Total Skin HI = 1E-02

Total Nervous System HI = 6E-03

Total Immune System HI = N/A

Total Kidney HI = N/A

Total Blood HI = N/A

Total Growth HI = N/A

Total Liver HI = N/A

2E-03

3E-02

3E-02

TABLE 9.6,CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Current Receptor Population: Trespasser Receptor Age: Adolescent (Ages 9-18)

Medium	Exposure Medium	Exposure Point	Chemical		Carcinogo	enic Risk		Chemical		Non-Card	inogenic Hazar	rd Quotient	
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil	Warehouse Area	Benzo(a)anthracene	1E-09		3E-09	5E-09	Benzo(a)anthracene	N/A	N/A		N/A	N/A
			Велго(в)ругеле	1E-08		3E-08	4E-08	Benzo(a)pyrene	N/A	N/A		N/A	N/A
			Benzo(b)fluoranthene	1E-09		3E-09	5E-09	Benzo(b)fluoranthene	N/A	N/A		N/A	N/A
			Dibenz(a,h)anthracene	3E-09		9E-09	1E-08	Dibenz(a,h)anthracene	N/A	N/A		N/A	N/A
			Dioxin TEQ	9E-09		6E-09	2E-08	Dioxin TEQ	N/A	N/A		N/A	N/A
			Arsenic	6E-08		4E-08	1E-07	Arsenic	\$kin	2E-03		1E-03	3E-03
			Chromium	N/A			N/A	Chromium	NOAEL	2E-03			2E-03
			Manganese	N/A			N/A	Manganese	Nervous System	1E-03		••	1E-03
			. (total)-	9E-08		9E-08	2E-07	(Total)		6É-03		1E-03	7E-03
			Total Rist	k Across All Media	and All Expos	ure Routes	2E-07	Tot	al Hazard Index Ad	cross All Med	lia and All Expo	osure Routes	7 Ę- 03

• = Not Evaluated

N/A ≈ Not Applicable

Total Skin HI ∓	3E-03
Total Nervous System HI =	1E-03
Total immune System HI =	N/A
Total Kidney HI =	N/A
Total Blood Hi≖	N/A
Total Growth HI =	N/A
Total Liver H! ≠	N/A

TABLE 9.7.RME SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCS REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Current Receptor Population: Recreational Visitor Receptor Age: Adolescent (Ages 9-18)

Medium	Exposure Medium	Exposure Paint	Chemical		Carcinog	enic Risk		Chemical		Non-Carc	inogenic Haza	rd Quotient	
			·	Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Targel Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Sediment	Hoosic River	Benzo(a)anthracene	1E-08		2E-08	3E-08	Benzo(a)anthracene	N/A	N/A		N/A	N/A
			Benzo(a)pyrene	6E-08		8E-08	1⋶-07	Benzo(a)pyrene	N/A	N/A		N/A	N/A
			Benzo(b)fluoranthene	1E-08		15-08	2E-08	Benzo(b)fluoranthene	N/A	N/A	:	N/A	N/A
			Dibenz(a,h)anthracene	5E-08		7E-08	1 E- 07	Dibenz(a,h)anthracene	N/A	N/A		N/A	N/A
			Indeno(1,2,3-od)pyrene	5E-09		7E-09	1E-08	Indeno(1,2,3-cd)pyrene	N/A	N/A		N/A	N/A
			Phenanihrene	N/A		N/A	N/A	Phenanthrene	Body Weight	8E-06		1E-0 5	2E-05
			Aroclor 1254	4E-09		6E-09	1≝-08	Araclor 1254	Immune System	7E-04		1E-03	2E-03
			Aroclor 1260	2E-09		3E-09	6E-09	Araclor 1260	Immune System	4E-04		6E-04	1E-03
			PCB TEQ	2E-05		8E-06	3E-05	PCB TEQ	N/A	N/A		N/A	N/A
			Dioxin TEQ	3E-07		1E-07	5E-07	Dioxin TEQ	N/A	N/A		N/A	N/A
			Arsenic	2E-07		8E-08	3E-07	Arsenic	Skin	4E-03		1E-03	5E-03
			Chromium	N/A			N/A	Chromium	NOAEL	2E-03			2E-03
			Manganese	N/A	٠.		N/A	Manganese	Nervous System	26-03			2E-03
			Mercury	N/A			N/A	Mercury	Nervous System	1E-03	••		1E-03
			(total)	2E-05	••	8E-06	3E-05	(Total)		1E-02		3E-03	1E-02
Surface Water	Surface Water	Haosic River	Dioxin TEQ	1E-08		2E-06	2E-06	Dioxin TEQ	N/A	N/A		N/A	N/A
		}	Manganese	N/A		N/A	N/A	Manganese	Nervous System	6E-03		1E-02	2E-02
		ĺ	Mercury	N/A		N/A	N/A	Mercury	Immune System	5E-05		6E-05	1E-04
	1		(lotal)	1E-08	••	2E-06	2E-06	(Totai)		6E-03		1E-02	2E-02
		 		Tata	al Risk Acros	s Sediment	3Ê-05	Tota	l Hazard Index Ad	ross All Med	lia and All Expo	sure Routes	3E-02

 -- = Not Evaluated
 Total Risk Across Surface Water
 2E-06

 N/A = Not Applicable
 Total Risk Across All Media and All Exposure Roules
 3E-05

Total Skin HI = 5E-03

Total Nervous System HI = 2E-02

Total Immune System HI = 3E-03

Total Kidney HI = N/A

Total Blood HI = N/A

Total Growth HI = N/A

Total Liver HI = N/A

TABLE 9.7.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Curreni Receptor Population: Recreational Visitor Receptor Age: Adolescent (Ages 9-18)

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog	enic Risk		Chemical		Non-Caro	inogenic Haza	rd Qualient	
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Sediment	Hoosic River	Benzo(a)anthracene	2E-09		6⊑-09	8E-09	Benzo(a)anthracene	N/A	N/A		N/A	N/A
		-	Benzo(a)pyrene	1E-08		3E-08	4E-08	Benzo(a)pyrene	N/A	N/A		N/A	N/A
		}	Benzo(b)fluoranthene	2E-09		5⋿-09	7E-09	Benzo(b)fluoranthene	N/A	N/A	j	N/A	N/A
			Dibenz(a,h)anthracene	8E-09		2E-08	3E-08	Dibenz(a,h)anthracene	N/A	N/A		N/A	N/A
			Indeno(1,2,3-cd)pyrene	9€-10		2E-09	3E-09	Indeno(1,2,3-cd)pyrene	N/A	N/A		N/A	N/A
			Phenanihrene	N/A		N/A	N/A	Phenanthrene	Body Weight	3E-06		8E-06	1€-05
		<u>'</u>	Arocior 1254	7E-10		2E-09	3E-09	Aroclor 1254	immune System	2E-04		7E-04	1E-03
			Arocior 1260	4E-10	••	1E-09	1E-09	Araclar 1260	Immune System	1E-04		4E-04	5≝-04
			РСВ ТЕО	4 E- 06		3E-06	6E-06	PCB TEQ	N/A	N/A		N/A	N/A
			Dioxin TEQ	7E-09		4E-09	1E-08	Dioxin TEQ	N/A	N/A		N/A	N/A
		:	Arsenic	4E-08		3E-08	7E-08	Arsenic	Skin	1E-03		8E-04	2E-03
		ļ	Chromium	N/A			N/A	Chromium	NOAEL	6E-04	i	••	6E-04
			Manganese	N/A			N/A	Manganese	Nervous System	6 E- 04		••	6E-04
			Mercury	N/A			N/A	Mercury	Nervous Syslem	4E-04			4E-04
			(tolai)	4E-06		3E-06	7E-06	(IsloT)		3E-03		2E-03	5E-03
Surface Water	Surface Water	Hoosic River	Diaxin TEQ	2E-10		3E-07	3E-07	Dioxin TEQ	N/A	· N/A		N/A	N/A
			Manganese	N/A		N/A	N/A	Menganese	Nervous System	2E-04		4E-04	6E-04
	:		Mercury	N/A		N/A	N/A	Mercury	Immune System	6E-06		8E-06	1E-05
			(total)	2E-10		3E-07	3E-07	(Total)		2E-04		4E-04	6 Ė- 04
				To	tal Risk Across	Sediment	7E-06	Tota	Hazard Index Ad	ross Ali Med	ia and All Expo	sure Routes	5E-03
= Not Evalua	ated			Total Ris	sk Across Suri	face Water	3E-07	_					
N/A ≅ Not Appli	cable		Total Risk	Across All Media	and All Expos	ure Routes	7E-06					otal Skin Ht =	2E-03
											Total Nervous	•	2E-03
								_			Total Immune	s System HI ≂	1E-03

LS [Table 9.7.CT]

N/A N/A

N/A

N/A

Total Kidney Hi =

Total Blood HI = Total Growth HI =

Total Liver HI >

TABLE 9.6.RME SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe; Future Receptor Population; Park Visitor Receptor Age: Young Child (Ages 1-5)/Adult

Soils Soi	Soll/Situatige	Lagoun 1	1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,3-Dichlorobenzene 1,3-Dichlorobenzene Benzene Benzene Bromodichloromethane Carbon tetrochloride Christopazone Chlorobenzene Chlorobenzene Trichlorosthylene Trichlorosthylene Trichlorosthylene Trichlorosthylene Aylans (total) 2-Methylnaphthalena 4-Methylphanal Benzo(a)sprene Benzo(a)pyrene Naphthalene Panlechlorophanol Dieldrin	N/A 1E-08 N/A 4E-09 6E-09 2E-08 N/A 9E-10 7E-09 N/A N/A N/A N/A N/A N/A 7E-05 N/A 2E-06	Inhaletion	Dermal	Exposure Routes Total N/A 1E-08 6E-09 9E-09 2E-09 2E-09 N/A 9E-10 7E-09 1E-09 N/A N/A N/A 1E-08 1E-05 N/A 4E-06	1.2-Dichlorobenzene 1.2-Dichlorobenzene 1.3-Dichlorobenzene 1.3-Dichlorobenzene 1.4-Dichlorobenzene Bromodichloromeihane Carbon talrachloride Chlorobenzene Chloroform Tetrachloroethylene Trichloroethylene Trichloroethylene L-Methylopenol Banzo(a)anhracane Benzo(a)aprene Naphthelene Perlachtorophenol Dicklin	Primary Tergel Organ NGAEL N/A N/A N/A N/A N/A Kidney Liver Liver Liver Liver N/A Nervous System N/A Nervous System N/A Nervous System N/A Body Weight Kidney Liver	2E-D4 4E-D5 9E-04 5E-D5 3E-04 6E-D5 2E-03 7E-D5 1E-04 1E-04 5E-05 1E-03 N/A N/A 5E-03 4E-03		Darmal	Exposure Roules To 2E-04 4E-05 9E-04 5E-05 2E-03 7E-05 1E-04 1E-04 5E-05 1E-03 N/A N/A 7E-03 9E-03
Soils Soi	Soli/Siludge	Legon 1	1.2-Dichlorosthane 1.3-Dichlorosthane 1.4-Dichlorosthane 1.4-Dichloros	1E.08 N/A 4E.09 6E.09 2E.08 N/A 9E.10 7E.09 N/A N/A N/A N/A N/A 7E.07 7E.06 N/A 2E.08		4E-07 4E-06 N/A 2E-08	15-08 N/A 4E-09 5E-09 9E-09 2E-08 N/A 9E-10 7E-09 IE-09 N/A N/A N/A N/A 1E-08 1E-05 N/A 4E-06	1,2-Dichlorosthane 1,3-Dichlorobenzene 1,4-Dichlorobenzene Bromodichloromelinane Carbon telkachloride Chlorobenzene Chiproform Telachlorosthylene Trichlorosthylene Trichlorosthylene 2-Methylnaphihalene 4-Methylphenol Banzo(a)anthrocane Benzo(a)pyrene Nephihalene Peniachlorophenol	N/A N/A N/A N/A Kigney Liver Liver Liver N/A Nervous System Body Weight N/A NIA Body Weight Kidney	4E-05 9E-04 5E-05 3E-04 6E-05 1E-04 1E-04 1E-04 5E-05 1E-03 N/A N/A 5E-03		N/A N/A N/A 3E-03 4E-03	4E-05 9E-04 5E-05 3E-04 6E-05 2E-03 7E-05 1E-04 1E-04 5E-05 NA N/A 7E-03 9E-03
			1,3-Oichlorobenzens 1,4-Oichlorobenzens Browdichloromethans Carbon teirschloride Chlorobenzens Chlorobenzens Chlorobenzens Trichloroethans Xylens (total) 2-Methylopahihalens 4-Methylopahihalens Benzo(a)pryrens Nephthalens Pantachlorophanol Dieldrin	N/A 4E-09 6E-09 9E-09 2E-08 N/A 9E-10 7E-09 N/A N/A N/A 7E-07 7E-06 N/A 2E-08		4E-07 4E-06 N/A 2E-08	NVA 4E-09 8E-09 9E-09 2E-08 NVA 9E-10 7E-09 1E-09 NVA NVA NVA NVA NVA NVA NVA 4E-05 NVA	1,3-Dichlorobenzene 1,4-Dichlorobenzene Benzene Bromodichloromeinene Carbon leirachloride Chlorobenzene Chloroform Tetrachloroethylene Trichloroethylene Trichloroethylene Zylane (lotel) 2-Methylosphihalene 4-Methylphenol Benzo(a)pyrane Benzo(a)pyrane Pentuchlorophenol	N/A N/A N/A N/A N/A N/A N/A N/A Nervous System N/A Nervous System N/A Nervous System N/A N/A Body Weight N/A N/A Body Weight N/A N/A	9E-04 5E-05 3E-04 6E-05 2E-03 7E-05 1E-04 1E-04 1E-05 1E-03 5E-03 N/A N/A 5E-03		N/A N/A N/A 3E-03 4E-03	9E-04 5E-05 3E-04 6E-05 2E-03 7E-05 1E-04 1E-04 5E-05 1E-03 9E-03
			1,4-Dichloropenzen e Benzehe Bromodichloromelhane Carbon teirochloride Chtorobenzene Chloroform Tetrochloroetnylene Trichloroethane Xylens (total) 2-Methylopahilhatena 4-Methyliphanot Benzo(a)shiftuscane Benzo(a)shiftuscane Pentachlorophanot Dieldrin	4E-09 6E-09 3E-09 2E-08 N/A 9E-10 7E-09 N/A N/A N/A N/A 7E-05 N/A 2E-05		4E-05 L-26-06	4E-09 6E-09 9E-09 9E-10 7E-09 1E-09 N/A N/A N/A N/A 1E-08 1E-05 N/A 4E-06	1,4-Cichiorobenzane Benzene Bromodichiorometinane Cerbon tekrachicride Chiorobenzane Chiorobenzane Chiorobenzane Chiorobenyane Trahiorostinyane Trahiorostinyane Xylane (total) 2-Methylnaphihalene 4-Methylphenol Banzo(ajanihracane Benzo(ajbyrane Naphihalene Peniachtorophenol	N/A N/A N/A Kidney Liver Liver Liver N/A Nervous System Body Weight Norvous System N/A N/A Body Weight Kiddney	5E-05 3E-04 6E-05 2E-03 7E-05 1E-04 1E-04 5E-05 1E-03 N/A 5E-03 N/A 5E-03		N/A N/A N/A 3E-03 4E-03	5E-06 3E-04 6E-05 7E-02 1E-04 1E-04 5E-05 N/A N/A 7E-05
			Benzene Bromodichloromethane Carbon teirschloride Chlorobenzene Chlorolorim Tetrschlorostrytene Trishlorostrytene Trishlorostrytene Trishlorostrytene Trishlorostrytene Eytene (total) 2-Meithylnaphihalena 4-Meithylnaphihalena Benzo(a)syrtene Benzo(a)syrtene Nephihalene Panischlorophanol Dieldrin	6E-06 9E-09 2E-08 N/A 9E-10 7E-09 N/A N/A N/A N/A N/A N/A N/A SE-07 7E-06 N/A 2E-08		4E-05 N/A 2E-06	BE-09 9E-09 2E-09 2E-09 NA 9E-10 7E-09 1E-09 N/A N/A N/A N/A 1E-08 1E-05 N/A 4E-08	Benzene Bromodichloromelhene Carbon leirachleride Chlorobenzene Chlorobenzene Chlorobene Trishloroethene Xyfene (total) 2-Methylosphilhelene 4-Methylphenol Benzo(a)pyrene Nephthelene Pentschtorophenol	N/A Kidney Liver Liver Liver Liver V/A Nervous System Body Weight Norvous System N/A N/A Body Weight Kidney	3E-04 6E-05 2E-03 7E-05 1E-04 1E-04 1E-04 5E-05 1E-03 5E-03 N/A N/A 5E-03 4E-03		N/A N/A N/A 3E-03 4E-03	3E-046 6E-05 2E-01 7E-02 1E-04 1E-04 5E-01 N/A N/A 7E-03
			Bromodichloromelhane Carbon tetrochloride Chlorobenzene Chlorotelme Trichlorosthytene Trichlorosthytene Xytene (total) 2-Methylnaphthalena 4-Methylphanol Benzo(a)sytene Reptitulene Fantschlorophanol Dieldrin	SE-08 SE-08 N/A SE-10 TE-09 N/A N/A N/A N/A N/A N/A N/A SE-07 TE-06 N/A SE-08		4E-07 4E-05 N/A 2E-08	9E-09 2E-08 N/A 9E-10 7E-09 1E-09 N/A N/A N/A 1E-08 1E-05 N/A 4E-06	Bromodichloromelinane Carbon teirachloride Chinorbenzene Chinorolom Teirachloroethylene Trichloroethylene Trichloroethylene Ashelhylnaphihalene 4-Melhylnaphihalene 4-Melhylphenol Banzo(a)anthrocane Berzo(a)pyrene Naphihalene Peniachtorophenol	Kidney Liver Liver Liver N/A Nervous System Body Weight Nervous System N/A Nervous System N/A N/A N/A N/A N/A Body Weight Kidney	6E-05 2E-03 7E-05 1E-04 1E-04 1E-04 5E-05 1E-03 5E-03 N/A N/A 5E-03		N/A N/A N/A 3E-03 4E-03	6E-0- 2E-0- 7E-0- 1E-0- 1E-0- 5E-0- 5E-0- N/A- N/A- 9E-0
			Carbon tetrochloride Chlorobenzene Chloroform Tetrachlorosthytene Trichlorosthane Xytens (total) 2-Methylnophthalena 4-Methylphanot Benzo(a)sinthracene Benzo(a)syrene Naphthalene Pantachlorophanot Dieldrin	2E-08 N/A 9E-10 7E-09 1E-09 N/A N/A N/A 7E-07 7E-06 N/A 2E-08		4E-07 4E-06 N/A 2E-08	2E-08 N/A 9E-10 7E-09 1E-09 N/A N/A N/A 1E-08 1E-05 N/A 4E-08	Carbon talzachloride Chlorobenzene Chloroform Teirachloroethylene Trishloroethylene Xylane (total) 2-Methylnaphthalene 4-Methylphenol Banzo(a)pyrane Repzo(a)pyrane Pentuchtorophenol	Liver Liver Liver Liver N/A Nervous System Body Weight Nervous System N/A N/A Body Weight Kidney	2E-03 7E-05 1E-04 1E-04 1E-04 5E-05 1E-03 5E-03 N/A N/A 5E-03 4E-03		N/A N/A N/A 3E-03 4E-03	2E-0 7E-0 1E-0 1E-0 5E-0 5E-0 N/A N/A 7E-0
			Chlorobenzene Chlorolorm Terschloroethylene Trichloroethene Xylene (total) 2-Methylnaphihalena 4-Methylphanot Benzo(a)pyrene Naphthalene Panlachlorophanot Dieldrin	N/A 9E-10 7E-09 1E-09 N/A N/A 7E-07 7E-06 N/A 2E-08			NIA 9E-10 7E-09 1E-09 NIA NIA NIA 1E-08 1E-05 NIA 4E-06	Chlorobenzene Chloroform Tetrachloroethylene Trichloroethene Xylane (total) 2-Methylenehlhalene 4-Methylenehlhalene Benzo(a)pyrane Benzo(a)pyrane Pentuchtorophenot	Liver Liver Liver N/A Nervous System Body Weight Nervous System N/A N/A Body Weight tildney	7E-05 1E-04 1E-04 1E-04 5E-05 1E-03 5E-03 N/A N/A 5E-03 4E-03		N/A N/A N/A 3E-03 4E-03	7E-0 1E-0 1E-0 5E-0 5E-0 8E-0 N/A 7E-0
			Chloroform Tetrachlorostrytene Trichlorostrytene Trichlorostrane Xylene (total) 2-Methylnophihatena 4-Methylphanol Benzo(a)enthrecane Bonzo(a)pyrene Nephthelene Panischlorophanol Dietdrin	9E-10 7E-09 1E-09 N/A N/A N/A 7E-07 7E-06 N/A 2E-08		4E-07 4E-06 N/A 2E-08	9E-10 7E-09 1E-09 N/A N/A N/A 1E-08 1E-05 N/A 4E-06	Chioroform Tetrachiorosthylene Trachiorosthylene Xylane (total) 2-Methylnaphthalene 4-Methylnaphthalene 4-Methylphenol Banzo(a)pyrene Naphthalene Peniachtorophenol	Liver Liver N/A Nervous System Body Weight Nervous System N/A N/A Body Weight Kidney	1E-04 1E-04 1E-05 1E-03 5E-03 N/A N/A 5E-03 4E-03	:	N/A N/A N/A 3E-03 4E-03	1E-0 1E-0 1E-0 5E-0 5E-0 N/A N/A 7E-0
			Terachioroethylene Trichloroethene Xytene (total) 2-Methylnophihalena 4-Methylphanot Benzo(a)enthrecene Benzo(a)eyrene Nephthelene Panischlorophanot Dieldrin	7E-09 1E-09 N/A N/A N/A N/A 7E-07 7E-06 N/A 2E-08		4E-07 4E-06 N/A 2E-06	7E-09 1E-09 N/A N/A N/A 1E-08 1E-05 N/A 4E-06	Tetrachioro athylena Trichioro ethena Xylana (total) 2-Methylasphihalena 4-Methylasphihalena 6-Methylasphihalena Banzo(a)anhracana Banzo(a)pyrana Naphihalena Peniachtorophenal	Liver N/A Nervous System Body Weight Nervous System N/A N/A Body Weight Kidney	1E-04 1E-04 5E-05 1E-03 5E-03 N/A N/A 5E-03 4E-03		N/A N/A N/A 3E-03 4E-03	1E-0 1E-0 5E-0 1E-0 9E-0
			Trichloroethene Xytene (total) 2-Methylnophthalena 4-Methylphanol Benzo(e)enthuscene Benzo(e)enthuscene Benzo(e)pyrene Nephthalene Pantschlorophanol	N/A N/A N/A N/A 7E-07 7E-06 N/A 2E-06			1E-09 N/A N/A N/A 1E-08 1E-05 N/A 4E-08	Trichloroethene Xylane (total) 2-Methylnaphihalene 4-Methylphenol Banzo(a)anthrocane Banzo(a)ayane Naphihalene Penlachtorophenol	N/A Nervous System Body Weight Nervous System N/A N/A Body Weight Kidney	1E-04 5E-05 1E-03 5E-03 N/A N/A 5E-03 4E-03	: : : : : : : : : : : : : : : : : : : :	N/A N/A N/A 3E-03 4E-03	1E-0 5E-0 1E-0 5E-0 N/A N/A 7E-0
			Xytene (total) 2-Methylmophthalena 4-Methylphanol Benzo(a)sunhtracane Bonzo(a)syrene Naphthalene Panlachlorophanol Dieldrin	N/A N/A N/A 7E-07 7E-06 N/A 25E-08		 4E-07 4E-06 N/A 2E-08	N/A N/A N/A 1E-08 1E-05 N/A 4E-06	Xylane (total) 2-Methylnaphthalene 4-Methylphenol Banzo(a)pyrene Benzo(a)pyrene Pentachtorophenol	Nervous System Body Weight Nervous System N/A N/A Body Weight Klidney	5E-05 1E-03 5E-03 N/A N/A 5E-03 4E-03	: : : : : : : : : : : : : : : : : : : :	N/A N/A N/A 3E-03 4E-03	5E-0. 1E-0 5E-0 N/A N/A 7E-0. 9E-0
			2-Methylnaphihatena i-Methylphanot Benzo(e)snithracane Benzo(e)syrene Naphthatene Pantachtorophanot Dieldrin	N/A N/A 7E-07 7E-05 N/A 2E-08 SE-08		4E-07 4E-06 N/A 2E-06	N/A N/A 1E-08 1E-05 N/A 4E-08	2-Melhyinsphihalene 4-Melhyiphenoi Benzo(a)anthriscene Benzo(a)pyrane Naphihalene Penischtorophandi	Body Weight Nervous System N/A N/A Body Weight Kildney	1E-03 5E-03 N/A N/A 5E-03 4E-03	::	N/A N/A N/A 3E-03 4E-03	1E-0 5E-0 N/A N/A 7E-0
			4-Melhylphenol Benzo(e)enthrecene Benzo(e)pyrene Nephthelene Panlechtorophenol Dieldrin	N/A 76-07 7E-06 N/A 2E-08 SE-08	 	4E-07 4E-06 N/A 2E-06	N/A 1E-08 1E-05 N/A 4E-08	4-Melhylphenol Banzo(a)anthrecene Benzo(a)pyrene Nephthetene Pentschtorophenol	Nervous System N/A N/A Body Weight Kldney	5E-03 N/A N/A 5E-03 4E-03	 	N/A N/A 3E-03 4E-03	5E-0 N/A N/A 7E-0 9E-0
		•	Benzo(a)enituscene Benzo(a)pyrene Naphthelene Panischlorophanol Dieldrin	76-07 7E-06 N/A 25-08 SE-08	 	4E-07 4E-06 N/A 2E-08	1E-08 1E-05 N/A 4E-08	Benzo(a)anthrecene Benzo(a)pyrene Naphthalane Pentachtorophandi	N/A N/A Body Weight Kidney	N/A N/A 5E-03 4E-03	 	N/A N/A 3E-03 4E-03	N/A N/A 7E-0: 9E-0:
			Benzo(a)pyrene Naphthelene Panlachforophanol Dieldrin	7E-06 N/A 25-08 5E-08		4E-06 N/A 2E-08	1E-05 N/A 4E-06	Benzo(a)pyrene Naphthalene Pentschlorophendi	N/A Body Weight Kidney	N/A 5E-03 4E-03	 	N/A 3E-03 4E-03	N/A 7E-0 9E-0
			Nephthalene Panlachiprophanol Dieldrin	N/A 25-08 55-08		N/A 2E-0B	N/A 4E-06	Naphthalena Pantschtorophendl	Body Weight Kldney	5E-03 4E-03		3E-03 4E-03	7E-0 9E-0
			Panischlorophanol Dieldrin	25-08 5E-08		2E-0B	4E-05	Pehlachtorophendl	Kidney	4E-03		4E-03	9E-0
			Dieldrk	5E-08					•				
							5E-08	Dieldrin	Liver	55.04			5E-0
			IDloxin TEQ	PE-04	1			li .		75-7-		•••	l
	ı		r i	\$E-04		1E-04	1E-03	Diextr TEQ	N/A	N/A		N/A	N/A
	1		Antimony	N/A		i	N/A	Antimony	Blood	3E-02			3E-0
	Į.		Arsenic	6E-06		6E-07	7E-08	Arsenic	Skin	1E-01		16.02	1E+0
			Sarium	N/A			N/A	Barium	NOAEL	2E-02	'		2E-0
			Cadmium	N/A		N/A	N/A	Cadmium	Kidney	9E-02	l	4E-02	1E-0
			Chromium	N/A			N/A	Chromium	NOAEL	4E+01			42+0
			Cyanide	N/A			N/A	Cyanide	Nervous System	2E-04			2E-0
			Mangenese	N/A			N/A	Mangenese	Nervous System	3E-02			3E-0
			Mercury	- N/A			N/A	Mercury	Nervous System	3E+00			3E+0
			Thalium	N/A			N/A	Thellium	NOAEL	5E-01	٠.	<u></u>	5E-0
			(lale)	9E+04		1E-04	1E-03	(Tolel)		5E+01		6E-02	5E+0
face Water Surfa	Surface Water	Legoon 1	Arsenic			35.08	3E-08	Arsenic	Skin			3E-D4	36.0
			Manganese			N/A	N/A	Manganese	Nervous System			3E-02	3E-0
			Marcury			N/A	N/A	Mercury	immune System		;	5E-04	5€-0
			Thelium			N/A	N/A	Thalium	NOAEL		<u> </u>	8E-04	6E-0
			(lafot)		<u></u>	38-08	3E-08	(Total)				4E-02	4E-0
			-		Risk Across		1E-03	Tot	al Hazerd Index A	crass All Max	die end All Expo	sura Routes	55+0
= Not Evaluated				Total Ris	sk Across Sui	face Water	3E-08	1					
No(Applicable	s		Total Risi	k Across Ail Media	and All Expos	ure Routes	1E-03]			T	oleji Skin Hi =	1E-0
											Total Nervous	System HI =	4E+0
											Tolsi Immuni	System Hi =	5E-0
											Total	si Kidney Hi =	16-0
											То	tel Blood Hi =	3E-0
											Toin	i Growth Hi =	N/

TABLE 9.8.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Perk Visitor Receptor Age: Young Child (Ages 1-8/Adult

Medjum	Exposure	Exposure	Chemical		-	enic Risk		Chemical		Non-Card	inogenic Hata	d Qualient	
	Medium	Point			Young Ch				ļ.,		Young Child		,
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primery Tergel Organ	Ingestion	inheletion	Dermal	Exposure Routes To
Soils	Şeil/Studge	Lagoon 1	1.2-Dichlorobenzene	N/A			N/A	1,2-Dichlorobenzens	NOAEL	4E-05			4E-05
			1,2-Dichloroethene	1 E-09			1E-09	1,2-Cichloroethane	N/A	1E-05			1E-05
			1,3-Dichlorobenzena	N/A	j		N/A	1,3-Dichlorobenzene	N/A	2E-04			2E-04
			1,4-Dichlorobenzens	3E-10			3E-10	1,4-Oschlorobenzene	N/A	1E-05	••	•.	16.0
			Banzene	5E-10			5E-10	Benzena	N/A	7E-05			7E-0:
	[Brampdichloromethene	7E-10			7E-10	Bromodichloromelhane	Kidney	1E-05			1E-0
	İ		Carbon tetrachiorice	IE-09			15-09	Carbon tetrachloride	Live/	4E-04			4E-0
			Chlorobenzene	N/A			N/A	Chlorobanzana	Liver	2E-05			2E-05
			Chloroform	7E-11			7E-11	Chloreform	Liver	3E-05			3E-0
			Tetrachiprosthylene	6E-10		:	6E-10	Tetrachtorgethylene	Liver	3E-05			3E-0
			Trichtoroethene	8E-11			BE-11	Trichlorosinene	N/A	3E-05			3E-05
			Xylene (lotal)	N/A			N/A	Xylene (talsi)	Nervous System	1 E-05			1E-05
			2-Melhylnephihalene	N/A			N/A	2-Methylnaphthalene	Body Weight	4E-04	4-		4E-04
			4-Methylphenol	N/A			N/A	4-Mathyphenal	Narvous System	1E-03			1E-03
			Bentzo(a)anthrecene	8E-08		82-08	1E-07	Benzo(a)anthracena	N/A	N/A		N/A	N/A
			Benzo(a)pyrene	5E-07		6E-07	1E-08	Benzo(e)pyrene	N/A	N/A		N/A	N/A
	1		Naphihalana	N/A		N/A	N/A	Naphihalone	Body Waight	1E-03		1E-03	3E-03
			Pantachiorophenol	1E-07		3E-07	5E-07	Pantechiorophenol	Kidney	1E-03		2E-03	3E-03
			Dieldrin	4E-09			4E-09	Dieldrin	Liver	1E-04			15-04
			Dioxin TEQ	1E-05		3E-08	1E•05	Dloxin TEQ	NA	N/A		N/A	N/A
			Antimony	N/A			N/A	Anlimony	Blood	9E-03			9E-02
	1		Arsenic	5E-07		1E-07	6E-07	Arsenic	Skin	3E-02	••	7E-03	4E-02
			Bartum	N/A	ļ		N/A	Barium	NOAEL	8E-03			8E-03
			Cadmium	N/A	٠	N/A	N/A	Cadmium	Kidney	2E-02		2E-02	4E-02
			Chromlum	N/A			N/A	Chromium	NOAEL	1E+01			16+0
			Cysnide	N/A			N/A	Cyanide	Nervous System	8E-05			6E-08
			Manganese	· N/A			N/A	Manganese	Nervous System	8E-03			6E-03
			Mercury	N/A			N/A	Mercury	Nervous System	1E-01			1 E-D1
			Thellium	N/A			N/A	Thallium	NOAÉL	1E-01		٠,	1 E-01
			((otal)	1E-05		4E-08	2E-05	(Total)		1E+01	••	3E-02	1E+0
urface Water	Surface Water	Lagoon I	Arsenic			2E-09	2E-09	Arsenic	Skin	•	•••	6E-05	6E-05
		anger.	Manganese			N/A	N/A	Mangahese	Nervous System			9E-03	9E-03
	i i		Mercury	**	,,	N/A	N/A	Mercury	immune System	••	••	1E-04	1E-04
			Thallium		l	N/A	N/A	Thellium	NOAEL			2E-04	2E-04
			(lotal)			28-09	2E-09	(Talel)	1101122			9E-03	9E-03
			<u>, , , , , , , , , , , , , , , , , , , </u>	Total	Risk Across :	Spil/Sludge	2E-05	Tota	el Hazero Index Ac	ross All Med	ia and All Expo	sura Raules	1E+0
- = Not Evalua	itea			Total Ris	k Across Sur	face Water	2E-09						
I/A = No! Appli	cabte		Total Ris	Acrosa All Media i	and All Expos	uje Routes	2E-05)			T	olal Skin Hl =	4E-02
						,		•			Total Nervous	System HI =	1E-01
											Total Immune		1E-04
												Kidney Hl	4E-02

09/27/200

N/A

Total Growth HI = Total Liver HI = 6E-04

TABLE 9,9,RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCS REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Park Visitor Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog Young Ch			Chemical		Non-Caro	inogenic Haza Young Child	rd Quotient	
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Solis	Soil/Sludge	Lagoon 2	Acetophenone	· N/A	•••		N/A	Acetophenone	NOAEL	3E-06	••		3E-06
			Dioxin TEQ	1E-05		1E-06	1E-05	Dioxin TEQ	N/A	N/A		N/A	N/A
			Arsenic	3E-06		4E-07	4E-06	Arsenic	Skin	6 E -02		8E-03	7E-02
			Cadmium	N/A		N/A	N/A	Cadmium	Kidney	9E-03		4E-03	1E-02
			Chromium	N/A			N/A	Chromium	NOAEL	8E-01			8E-01
			Cyanide	N/A			N/A	Cyanide	Nervous System	4E-04			4E-04
ļ ·	:		Manganese	N/A			N/A	Manganese	Nervous System	1E-01			1E-01
			Mercury	N/A			N/A	Mercury	Nervous System	2E-02			2E-02
			Thallium	N/A			N/A	Thallium	NOAEL	9E-02			9E-02
			(total)	2E-05		2E-06	2E-05	(Total))	1E+00		1E-02	1E+00
Surface Water	Surface Water	Lagoon 2	Dioxin TEQ			2E-06	2E-06	Dioxin TEQ	N/A		••	N/A	N/A
			Manganese			N/A	N/A	Manganese	Nervous System			2E-02	2E-02
			(lotal)			2E-06	2E-06	(Total)	•		2E-02	2E-02
	<u> </u>	·		Tota	I Risk Across	Soil/Sludae	2E-05	Тс	tal Hazard Index A	cross Ali Mei	dia and All Exp	osure Routes	1E+00

-- = Not Evaluated

N/A = Not Applicable

Total Risk Across Surface Water

Total Risk Across All Media and All Exposure Routes

Total Skin HI = 7E-02 Total Nervous System HI = 1E-01 Total Immune System HI = N/A

> Total Kidney HI = 1E-02 Total Blood HI = N/A Total Growth Hi = N/A Total Liver Hi ≈ N/A

2E-06

2€-05

TABLE 9,9,CT

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future

Receptor Population: Park Visitor Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical	-	Carcinog Young Ch	enic Risk ild + Adult		Chemical		Non-Care	inogenic Haza Young Child	rd Quotient	
				ingestion	inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soils	Soil/Sludge	Lagoon 2	Acetophenone	N/A			N/A	Acetophenone	NOAEL	8E-07			8E-07
			Dioxin TEQ	9E-07		2E-07	1E-06	Dioxin TEQ	N/A	N/A		N/A	N/A
			Arsenic	3E-07		7E-08	3E-07	Arsenic	Skin	1E-02		4E-03	2E-02
		•	Cadmium	N/A		N/A	N/A	Cadmium	Kldney	2E-03		28-03	4E-03
			Chromium	N/A			N/A	Chromium	NOAEL	2E-01			2E-01
			Cyanide	N/A			N/A	Cyanide	Nervous System	9E-05			9E-05
			Manganese	N/A			N/A	Manganese	Nervous System	2E-02			2E-02
			Mercury	N/A			N/A	Mercury :	Nervous System	4E-03	••		4E-03
			Thallium	N/A	<u></u>		N/A	Thallium	NOAEL	2E-02			2E-02
			(total)	1E-06	••	3⊑•07	2£-06	(Total		3E-01	••	6E-03	3E-01
Surface Water	Surface Water	Lagoon 2	Dioxin TEQ			2E-07	2E-07	Dioxín TEQ	N/A			N/A	N/A
			Manganese			N/A	N/A	Manganese	Nervous System	· <u></u>		6E-03	6E-03
			(total)			2E-07	2E-07	(Total)			6E-03	6E-03
				Total	Risk Across	Soil/Sludge	2E-06	Та	tai Hazard Index A	cross All Me	dia and All Exp	osure Routes	3E-01
- = Not Evalua	led	*		Total Ris	sk Across Su	face Water	2E-07	_					
N/A = Not Applic	able		Total Ris	sk Across All Media	and All Expos	sure Routes	2E-08				T	Total Skin Hi =	2E-02
											Total Nervous	s System Hi ∓	3E-02
											Total Immune	e System Hi =	N/A
											Total	al Kidney HI =	4E-03

N/A

N/A

N/A

Total Blood HI =

Total Growth HI =

Total Liver HI =

TABLE 9.10.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Park Visitor Receptor Age: Young Child (Ages 1-8)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog Young Ch			Chemical	1		Non-Carc	inogenic Hazar Young Child	rd Quotient	
				Ingestion	Inhalation	Dermal	Exposure Routes Total			Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soils	Soil/Sludge	Lagoon 3	Dioxin TEQ	1E-06		4E-07	2E-06	Dioxin TEQ		N/A	N/A		N/A	N/A
			Antimony	N/A			N/A	Antimony		Blood	8E-03			8É-03
			Arsenic	5E-07		1E-07	6E-07	Arseniç		Skin	3E-02		7E-03	4E-02
			Cadmium	N/A		N/A	N/A	Cadmium		Kidney	4E-02		4E-02	8E-02
			Chromlum	N/A			N/A	Chromium		NOAEL	2E+00		**	2E+00
			Manganese	N/A			N/A	Manganese		Nervous Šystem	3E-02			3E-02
			Mercury	N/A		•••	N/A	Mercury		Nervous System	1E-01			1E-01
			Thallium	N/A	<u> </u>		N/A	Thailium		NOAEL	8 E -03			- 8E-03
			(total)	2E-06		5E-07	2E-06		(Total)		2E+00		5E-02	2E+00
Surface Water	Surface Water	Lagoon 3	No samples		-			No samples						
			(total)			••	N/A		(Total)					N/A
				Tota	I Risk Across	Soil/Sludge	2E-06		Tot	al Hazard Index Ad	cross Ali Med	lia and All Expo	sure Routes	2€+00
= Not Evalua	ted			Total Ri	isk Across _, Sur	face Water	N/A]						
N/A = Not Applio	able		Total Risi	k Across Ali Media	and All Expos	ure Routes	2E-06]				T	otal Skin HI =	4E-02
						•		_				Total Nervous	System HI =	1E-01
												Total Immune	System HI =	

Total Kidney HI = 8E-02 Total Blood HI ≠ 8E-03 Total Growth HI = N/A

Total Liver HI =

N/A

TABLE 9.11.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Park Visitor

Receptor Age: Young Child (Ages 1-6)/Adult

Carcinogenic Risk Non-Carcinogenic Hazard Quotient Medium Exposure Exposure Chemical Chemical Young Child + Adult Young Child Medium Point Inhalation Dermal Exposure Primary Ingestion Inhaiation Exposure Ingestion Routes Total Roules Total Target Organ N/A N/A N/A Soils Solf/Sludge Lagoon 4 Benzo(a)anthracene BE-08 4E-08 1E-07 Benzo(a)anthraceле ٠. N/A 4E-07 1E-06 Benzo(a)pyrene N/A N/A N/A N/A Benzo(a)pyrene 8E-07 - -N/A N/A N/A Benzo(b)fluoranthene 8E-08 4E-08 1E-07 Benzo(b)fluoranthene N/A - -- -Dibenz(a,h)anthracene N/A N/A N/A N/A Dibenz(a,h)anthracene 8E-07 4E-07 1E-06 - -Indeno(1,2,3-cd)pyrene 8E-08 --4E-08 1E-07 Indeno(1,2,3-cd)pyrene N/A N/A N/A N/A 7E-05 Naphthalene N/A N/A N/A Naphthalene Body Weight 4E-05 - -2E-05 - -Pentachlorophenol Kidney 8E-05 8E-05 2E-04 Pentachlorophenol 3E-08 - -4E-08 7E-08 .. N/A N/A N/A N/A Dioxin TEQ 6E-05 7E-06 6E-05 Dioxin TEQ - -4E-07 4E-06 Arsenic Skin 6E-02 8E-03 7E-02 Arsenic 3E-06 . . 4E-04 1E-03 Cadmium N/A N/Δ N/A Cadmium Kidney 9E-04 - -.. Chromium NOAEL 16-01 Chromlum N/A ٠. ٠. N/A 1E-01 - -- -Manganese N/A - -N/A Manganese Nervous System 3E-02 - -3E-02 9E-03 9E-03 Mercury N/A - -N/A Mercury Nervous System • • 1E-01 Thallium N/A N/A Thallium NOAEL 1E-01 . . 3E-01 3E-01 (total) 6E-05 9E-06 7E-05 (Total) . . 9E-03 Dioxin TEQ Surface Water 2E-07 2E-07 N/A N/A N/A Surface Water Lagoon 4 Dioxin TEQ ٠. ٠. N/A 4E-02 4E-02 Manganese ٠. N/A Manganese Nervous System . . 3E-04 3E-04 N/A Mercury N/A Mercury Immune System 4E-02 (total) 2E-07 2E-07 (Total) 4E-02 Total Hazard Index Across All Media and All Exposure Routes 4E-01 Total Risk Across Soil/Sludge 7E-05 2E-07 Total Risk Across Surface Water - - = Not Evaluated Total Skin HI ≃ 7E-02 Total Risk Across All Media and All Exposure Routes 7E-05 N/A = Not Applicable

Total Skin HI = 7E-02

Total Nervous System HI = 8E-02

Total Immune System HI = 3E-04

Total Kidney HI = 2E-03

Total Blood HI = N/A

Total Growth HI = N/A

Total Liver HI = N/A

TABLE 9.11.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Park Visitor Receptor Age: Young Child (Ages 1-6)/Aguit

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog Young Ch			Chemical		Non-Card	inogenic Hazar Young Child	rd Qualient	
				Ingestion	Inhalation	Dermal	Exposure Roules Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Tota
Soils	Soil/Sludge	Lagoon 4	Benzo(a)anthracene	6E-09		7E-09	1E-08	Benzo(a)anthracene	N/A	N/A		N/A	N/A
			Вепхо(а)ругеле	6E-08		7E-08	1E-07	Benzo(a)pyrene	N/A	N/A		N/A	N/A
			Benzo(b)fluoranthene	60-38		7E-09	1E-08	Benzo(b)fluoranthene	N/A	N/A		N/A	N/A
			Dibenz(a,h)anthracene	8E-08		7 É- 08	1E-07	Dibenz(a,h)anthracene	N/A	N/A		N/A	N/A
			Indeno(1,2,3-cd)pyrene	6E-09		7E-09	1 E- 08	Indeno(1,2,3-cd)pyrene	N/A	N/A		N/A	N/A
			Naphthalene	N/A	1	N/A	N/A	Naphthalene	Body Weight	1E-05		1E-05	26-05
			Pentachlorophenol	3E-09		6E-09	8 E -09	Pentachlorophenol	Kidney	2E-05		4E-05	6E-05
			Dioxin TEQ	8E-07		2 E -07	1 E -06	Dioxin TEQ	N/A	N/A		N/A	N/A
			Arşenic	3E-07		7E-08	3 E -07	Arsenic	Skin	2E-02		4E-03	28-02
			Cadmium	N/A		N/A	N/A	Cadmium	Kidney	2E-04		2E-04	4E-04
			Chromium	N/A		••	N/A	Chromium	NOAEL	3E-02			3E-02
			Manganese	N/A			N/A	Manganese	Nervous System	7E-03		••	7E-03
			Mercury	N/A			N/A	Mercury	Nervous System	2E-03			2E-03
			Thallium	N/A			N/A	Thallium	NOAEL	3E-02			3E-02
			(total)	1E-06	• •	4E-07	2 E -06	(Total)		8E-02		4E-03	8E-02
Surface Water	Surface Water	Lagoan 4	Dioxin TEQ	**-		2E-08	2E-08	Dioxin TEQ	N/A			N/A	N/A
			Manganese	- •	٠	N/A	N/A	Manganese	Nervous System	••	• •	4E-03	4E-03
			Mercury			N/A	N/A	Mercury	Immune System			4 E-0 5	4E-05
		·	(total)			2E-08	2E-08	(Total)		•-	• •	4€-03	4E-03
			Soil/Sludge	2E-06	Total	al Hazard Index Ad	ross Ali Med	lia and All Expo	sure Rautes	9E-02			
= Not Evalua	ted			Total Ri	sk Across Sur	face Water	2E-08	_					

N/A = Not Applicable

Total Risk Across All Media and All Exposure Routes

Total Skin HI ≠ 2E-02 Total Nervous System HI ≈ 1E-02 Total Immune System HI ≠ 4E-05 Total Kidney HI = 5E-04 Total Blood HI = N/A Total Growth HI = N/A Total Liver HI = N/A

2E-06

TABLE 9.12.RME SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe; Future Receptor Population: Park Visitor Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinogo Young Chi			Chemical		Non-Card	inogenic Hazar Young Child	d Quotient	
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Roules Tota
Soils	Soil/Sludge	Lagoon 6	Benzo(a)pyrene	1E-08		6E-07	2E-06	Benzo(a)pyrane	N/A	N/A		N/A	N/A
			bis(2-Chloroethoxy)methane	N/A		}	N/A	bis(2-Chloroethoxy)methane	N/A	N/A	••	••	N/A
			Bis(2-chloroethyl)ether	26-07	١		2E-07	Bis(2-chloroethyl)ether	N/A	N/A			N/A
			N-Nitroso-di-n-propylamine	2E-06		•-	2E-06	N-Nitroso-di-n-propylamine	N/A	N/A		••	N/A
			Nitrobenzene	N/A			N/A	Nitrobenzene	Blood	2E-03			2E-03
			Pentachlorophenol	4E-08		4E-08	8€-08	Pentachlorophenol	Kidney	8E-05		9E-05	2E-04
			Araclar 1248	6E-08		4E-08	1E-07	Aroclor 1248	Immune System	15-02		7E-03	2E-02
			Dioxin TEQ	1E-04		2E-05	2E-04	Dioxin TEQ	N∕A	N/A		N/A	N/A
			Antimony	N/A			N/A	Anlimony	Biood	8E-02			8E-02
			Arsenic	4E-06	}	5E-07	4£-06	Arsenic	Şkin	7E-02		9€-03	8Ę-02
			Cadmium	N/A	1	N/A	N/A	Cadmium	Kidney	4E-02		2E-02	6E-02
]			Chromium	N/A			N/A	Chromium	NOAEL	1E+01			1E+01
1			Manganese	N/A	••		N/A	Manganese	Nervous System	6E-02			6 E -02
			Mercury	N/A			N/A	Mercury	Nervous System	2E-01			2E-01
			Thallium	N/A			N/A	Thallium	NOAEL	7E-01			7E-01
			(lotal)	2E-04		2E-05	2E-04	(Total)		1E+01		3E-02	1E+01
Surface Water	Surface Water	Lagoon 5	Dioxin TEQ	**		1 E -06	1E-06	Dioxin TEQ	N/A	••		N/A	N/A
			Chromium			N/A	N/A	Chromium	NOAEL			4E-05	4E-05
			Manganese			N/A	N/A	Manganese	Nervous System		••	9E-03	9E-03
			Mercury			N/A	N/A	Mercury	Immune System			3E-04	3E-04
			(total)			1E-06	1E-06	(Tolal)				9E-03	9E-03
				Total	Risk Across 3	Soil/Sludge	2E-04	Tota	l Hazard Index Ac	ross All Med	ia and All Expo	sure Roules	1E+01
- = Not Evalua	iled			Total Ris	sk Across Sur	face Water	1É-06	_					
N/A = Not Applic	able		Total Risk	Across All Media	and All Expos	ure Roules	2E-04	1			Т	otal Skin HI =	8E-02

Total Nervous System HI = 3E-01 Total immune System HI = 2E-02 Total Kidney HI = 6E-02 Total Blood HI = 8E-02 Total Growth HI ≈ N/A Total Liver HI = N/A

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TABLE 9.12.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCS CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Park Visitor Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog Young Ch			Chemical		Non-Caro	inogenic Haza Young Child	rd Quotient	
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingesilon	Inhalation	Dermal	Exposure Routes Total
Soils	Soll/Sludge	Lagoon 5	Benzo(a)pyrene	6E-08		7E-08	1 E -07	Benzo(a)pyrene	N/A	N/A		N/A	N/A
	1		bis(2-Chloroethoxy)methane	N/A			N/A	bis(2-Chloroethoxy)methane	N/A	N/A			N/A
			Bis(2-chloroethyl)ether	1E-08		•	1É-08	Bis(2-chloroethyl)ether	N/A	N/A			N/A
			N-Nitroso-di-n-propylamine	8E-08			8E-08	N-Nitroso-di-n-propylamine	N/A	N/A			N/A
			Nitrobenzene	N/A			N/A	Nitrobenzene	Blood	5E-04			5E-04
			Pentachtorophenol	3E-09		6E-09	9E-09	Pentachlorophenol	Kidney	2E-05	-•	5E-05	7 E- 05
			Araclar 1248	5E-09		6E-09	15-08	Arocior 1248	Immune System	3€-03		4E-03	7E-03
			Dioxin TEQ	1E-05		3€-06	1E-05	Dioxin TEQ	N/A	N/A		N/A	N/A
			Antimony	N/A			N/A	Antimony	Blood	2É-02	••	• •	2E-02
			Arsenic	18-07		3E-08	2E-07	Arsenic	Skin	8E-03		28-03	1E-02
İ			Cadmium	N/A	}	N/A	N/A	Cadmium	Kidney	1E-02		9E-03	2E-02
			Chromium	N/A			N/A	Chramium	NOAEL	3E+00]		3E+00
			Manganese	N/A			N/A	Manganese	Nervous System	2E-02			2E-02
			Mercury	N/A			N/A	Mercury	Nervous System	2E-02			2E-02
			Thallium	N/A			N/A	Thallium	NOAEL	2E-01			2E-01
			(lotal)	1E-05		3E-06	1E-05	(Tolal)		3E+00		1E-02	3E+00
Surface Water	Surface Water	Lagoon 5	Dioxin TEQ			2E-07	2E-07	Dioxin TEQ	N/A			N/A	N/A
			Chromium			N/A	N/A	Chromium	NOAEL		}	1E-05	1E-05
			Manganese	••		N/A	N/A	Manganese	Nervous System			2E-03	2E-03
			Mercury			N/A	N/A	Mercury	Immune System			8E-05	8E-05
			(total)			2E-07	2E-07	(Total)				2E-03	28-03
				Total	Risk Across S	Soil/Sludge	18-05	Tota	l Hazard Index Ac	ross All Medi	a and All Expo	sure Routes	3E+00
						il			• •		· · · · · · · · · · · · · · · · · · ·		

 Total Risk Across Soil/Sludge
 1E-05

 -- = Not Evaluated
 Total Risk Across Surface Waler
 2E-07

 N/A = Not Applicable
 Total Risk Across All Media and All Exposure Routes
 2E-05

Total Skin HI = 1E-02

Total Nervous System HI = 3E-02

Total Immune System HI ≈ 7E-03

Total Kidney HI ≈ 2E-02

Total Blood HI = 2E-02

Total Growth HI = N/A

Total Liver HI ≈ N/A

TABLE 9.13.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future

Receptor Population; Park Visitor Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog Young Ch			Chemical		Non-Card	inogenic Haza Young Child		
·				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soils	Soil	Warehouse Area	Acetophenone	N/A			N/A	Acetophenone	NOAEL	4E-06			4E-06
			Велzo(a)anthraceпе	8E-08		4E-08	1E-07	Benzo(a)anthracene	N/A	N/A		N/A	N/A
			Benzo(a)pyrene	1E-06		5 £- 07	1E-06	Benzo(a)pyrene	N/A	N/A	••	N/A	· N/A
			Benzo(b)fluoranthene	2E-07		1E-07	3E-07	Benzo(b)fluoranthene	N/A	N/A		N/A	N/A
			Olbenz(a,h)anthracene	6E-07		4E-07	1E-06	Dibenz(a,h)anthracene	N/A	N/A	••	N/A	N/A
			Indeno(1,2,3-cd)pyrene	7E-08		4E-08	1E-07	Indeno(1,2,3-cd)pyrene	N/A	N/A		N/A	N/A
			Dioxin TEQ	7E-07		96-08	8E-07	Dioxin TEQ	N/A	N/A		N/A	N/A
			Arsenic	5E-06		7E-07	6E-06	Arsenic	Skin	1E-01	••	1E-02	1E-01
	•		Chromium	N/A		••	N/A	Chromium	NOAEL	4E-02			4E-02
1			Manganese	N/A			N/A	Manganese	Nervous System	4E-02		••	4E-02
			Mercury	N/A			N/A	Mercury	Nervous System	5E-03		• •	5E-03

2€-06

Total Risk Across Ali Media and All Exposure Routes

N/A

N/A

8E-06

(total)

Thallium

Vanadium

1E-05 1E-05

N/A

N/A

Thallium

Vanadium

3E-01

6E-03

5E-01

NOAEL

NOAEL

(Total)

Total Hazard Index Across All Media and All Exposure Routes

-- = Not Evaluated

N/A = Not Applicable

Total Skin HI =	1E-01
Total Nervous System HI =	4E-02
Total Immune System HI =	N/A
Total Kidney HI ⇒	N/A
Total Blood HI =	N/A
Total Growth HI =	N/A
Total Liver HI =	N/A

1E-02

3E-01

6E-03

5E-01

55-01

TABLE 9.13.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCS CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Park Visitor Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinogenic Risk Young Child + Adult			Chemical		Non-Carc	inogenic Hazai Young Child	rd Quotient	
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soils	Soil	Warehouse Area	Acetophenone	N/A			N/A	Acetophenone	NOAEL	1 E- 06		••	1E-06
			Benzo(a)anthracene	6E-09		7E-09	1É-08	Benzo(a)anthracene	N/A	N/A		N/A	N/A
			Benzo(a)pyrene	8E-08		8E-08	2E-07	Benzo(a)pyrene	N/A	N/A		N/A	N/A
		İ	Benzo(b)fluoranthene	2E-08		2E-08	4E-08	Benzo(b)fluoranthene	N/A	N/A		N/A	N/A
			Dibenz(a,h)anthracene	5E-08		6E-08	1E-07	Dibenz(a,h)anthracene	N/A	N/A		N/A	N/A
:			Indeno(1,2,3-cd)pyrene	6E-09		6E-09	1E-08	Indeno(1,2,3-cd)pyrene	N/A	N/A		N/A	N/A
:			Dioxin TEQ	6E-08		1E-08	7E-0B	Dioxin TEQ	N/A	N/A		N/A	N/A
			Arsenic	4E-07		1E-07	5E-07	Arsenic	Skin	2E-02		6E-03	3E-02
			Chromium	N/A			N/A	Chromium	NOAEL	1E-02			1E-02
			Manganese	N/A			N/A	Manganese	Nervous System	1E-02			1E-02
			Mercury	N/A			N/A	Mercury	Nervous System	1E-03	••	~ •	1E-03
			Thallium	N/A			N/A	Thallium	NOAEL	8E-02	••	••	8E-02
			Vanadium	N/A			N/A	Vanadium	NOAEL	1E-03			1E-03
			(total)	6E-07		3E-07	9E-07	(Total)		1E-01		6E-03	1E-01
		······································	Total Risk	Across All Media a	and All Exposi	ine Routes	9E-07	Tot	al Hazard Index A	cross All Med	ila and All Expo	sure Routes	1E-01

-- = Not Evaluated

N/A = Not Applicable

Total Skin Hi = 3E-02

Total Nervous System HI = 1E-02

Total Immune System HI = N/A

Total Kidney HI = N/A

Total Blood HI = N/A

Total Growth HI = N/A

Total Liver HI = N/A

TABLE 9.14.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Park Visitor Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog Young Ch			Chemical	Non-Gardnogenic Hazard Quotient Young Child					
	·			Ingestion	Inhalation	Dermal	Exposure Roules Total		Primary Target Organ	Ingestion	Inhalalion	Dermai	Exposure Roules Total	
Sediment	Sediment	Hoosic River	Benzo(a)anthracene	1E-07		6⊑-08	2E-07	Benzo(a)anthracene	N/A	N/A		N/A	N/A	
			Benzo(a)pyrene	5E-07		3E-07	6E-07	Benzo(a)pyrene	N/A	N/A	••	N/A	N/A	
			Benzo(b)fluoranthene	9€-08		5∈-08	1E-07	Benzo(b)fluoranthene	N/A	N/A		' N/A	N/A	
			Dibenz(a,h)anthracene	4E-07		2E-07	6E-07	Dibenz(a,h)anlhracene	N/A	N/A		N/A	N/A	
			Indeno(1,2,3-cd)pyrene	5€-08		2€-08	7E-08	indena(1,2,3-cd)pyrene	N/A	N/A]	N/A	N/A	
			Phenanthrene	N/A		N/A	N/A	Phenanthrene	Body Weight	8 Ę -05		5E-05	1E-04	
			Arocior 1254	4E-08		2E-08	6€-08	Araclor 1254	immune System	7E-03		4E-03	1E-02	
			Arodor 1260	2E-08		1É-08	3E-08	Araclar 1260	Immune System	4E-03		2E-03	6E-03	
			РСВ ТЕО	2E-04		3€-05	2E-04	PCB TEQ	N/A	N/A		N/A	N/A	
	·		Dioxin TEQ	3E-06		4E-07	3E-06	Dioxin TEQ	N/A	N/A		N/A	N/A	
			Arsenic	2E-06		3E-07	2€-06	Arsenic	Skin	4E-02		5E-03	4 E -02	
			Chromium	N/A			N/A	Chromium	NOAEL	2E-02			2E-02	
			Manganese	N/A			N/A	Manganese	Nervous System	25-02			2E-02	
			Mercury	N/A			N/A	Mercury	Nervous System	1E-02	**		1E-02	
		•	(total)	2E-04		3E-05	2E-04	(Total)		1E-01		1E-02	1E-01	
Surface Water	Surface Water	Hoosic River	Dioxin TEQ	6E-08		1E-05	1E-05	Dioxin TEQ	N/A	N/A		N/A	N/A	
			Manganese	N/A		N/A	N/A	Manganese	Nervous System	3E-02		4E-02	7E-02	
į			Mercury	N/A		N/A	N/A	Mercury	Immune System	2E-04		2E-04	4E-04	
			(lotal)	6E-08		1E-05	1E-05	(Total)		3E-02	••	4E-02	7E-02	
				Tat	al Risk Acros	s Sediment	2E-04	Tota	l Hazard Index Ad	ross All Med	ia and All Expo	sure Routes	2E-01	

 -- = Not Evaluated
 Total Risk Across Surface Water
 1E-05

 N/A = Not Applicable
 Total Risk Across All Media and All Exposure Roules
 2E-04

Total Skin Hi = 4E-02

Total Nervous System Hi = 1E-01

Total Immune System Hi = 2E-02

Total Kidney Hi = N/A

Total Blood Ht = N/A

Total Growth Hi ≈ N/A

Total Liver Hi = N/A

TABLE 9.14.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Park Visitor Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog Young Ch			Chemical	Non-Cardinogenic Hazard Quotient Young Child					
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total	
Sediment	Sediment	Hoosic River	Benzo(a)anthracene	8E-09		9E-09	2E-08	Benzo(a)anihracene	N/A	N/A		N/A	N/A	
			Вепzo(э)ругеле	4E-08		4E-08	6E-08	Benzo(a)pyrene	N/A	N/A		N/A	N/A	
			Benzo(b)fluoranthene	7E-09		8E-09	1E-08	Benzo(b)fluoranthene	N/A	N/A		N/A	N/A	
			Dibenz(a,h)anIhracene	3E-08		4E-08	7E-08	Dibenz(a,h)anthracene	N/A	N/A		N/A	N/A	
			indeno(1,2,3-cd)pyrene	4E-09		4E-09	8E-09	Indeno(1,2,3-cd)pyrene	N/A	N/A		N/A	N/A	
			Phenanthrena	N/A		N/A	N/A	Phenanihrene	Body Weight	2E-05	}	2E-05	4E-05	
			Arodor 1254	3E-09		3E-08	6E-09	Aroclor 1254	Immune System	2E-03		2E-03	4E-03	
			Arocior 1260	2E-09		2E-09	3E-09	Aroclor 1260	Immune System	1E-03		1E-03	2E-03	
			PCB TEQ	2E-05		4E-06	2E-05	PCB TEQ	N/A	N/A		N/A	N/A	
			Dioxin TEQ	3E-08		7 £ -09	4E-08	Dioxin TEQ	N/A	N/A		N/A	N/A	
			Arsenic	2E-07		4E-08	2E-07	Arsenic	Skln	1E-02		3E-03	1E-02	
ł	i		Chromium	N/A			N/A	Chromium	NOAEL	4E-03		••	4E-03	
			Manganese	N/A			N/A	Manganese	Nervous System.	5E-03			5€-03	
i			Mercury	N/A			N/A	Mercury	Nervous System	3E-03			3E-03	
			(total)	2E-05		4E-06	2E-05	(Total)		2E-02	•	6E-03	3E-02	
Surface Water	Surface Water	Hoosic River	Diaxin TEQ	5E-10		7E-07	7E-07	Dioxin TEQ	N/A	N/A		N/A	N/A	
			Manganese	N/A		N/A	N/A	Manganese	Nervous System	7E-04		1E-03	2E-03	
			Mercury	N/A		N/A	N/A	Mercury	immune System	2É-05		2E-05	4E-05	
į		i	(total)	5E-10		7E-07	7É-07	(Total)		7E-04		1E-03	2E-03	

· · ≈ Not Evaluated

N/A ≈ Not Applicable

Total Risk Across Surface Water 7E-07 Total Risk Across All Media and All Exposure Routes 2E-05

> Total Nervous System Ht ≂ 9E-03 Total Immune System HI = 6E-03 Total Kidney Hi ≃ N/A Total Blood HI ≃ N/A Total Growth HI ≃ N/A

Total Skin HI =

Total Liver HI =

उ (Table 9.14.CT)

1E-02

N/A

TABLE 9.15,RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Current

Receptor Population: Resident Receptor Age: Young Child (Ages 1-5)/Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk Young Child + Adult				Chemical		Non-Card	inogenic Hazar Young Child	d Quotient	
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Tap Water Residential Well - RW-001	Antimony	N/A			N/A	Antimony	Blood	4 E- 01		•-	4E-01
			(total)	N/A		••	N/A	(Total)		4E-01			4E-01
<u></u>	<u> </u>		Total Risk Across All Media and All Exposure Routes N/A					1 -	ai Hazard Index A	cross All Med			4E-01

-- = Not Evaluated

N/A = Not Applicable

Total Skin Hi =	N/A
Total Nervous System HI =	N/A
Total Immune System HI =	N/A
Total Kidney HI =	N/A
Total Blood HI =	4E-01
Total Growth HI =	N/A
Total Liver Ht ≠	N/A

TABLE 9,15.CT

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCS

CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Current

Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog Young Ch	enic Risk ild + Adult		Chemical		Non-Card	inogenic Hazar Young Child		
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Tap Water Residential Well - RW-001	Antimony	N/A			N/A	Antimony	Blood	1E-01			1E-01
			(total)	N/A		••	N/A	(Total)		1E-01		••	1E-01
			Total Risk Across All Media and All Exposure Routes N/A				Tot	a! Hazard Index A	cross All Med	dia and All Expo		1E-01	

-- = Not Evaluated

N/A = Not Applicable

Total Skin HI = N/A Total Nervous System HI = N/A Total Immune System HI = N/A Total Kidney Hì ≄ N/A Total Blood HI ≃ 1E-01 Total Growth HI = N/A Total Liver HI = N/A

TABLE 9.16.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Current Receptor Population: Resident Receptor Age: Young Child (Ages 1-8)/Adult

Medium	Exposure Medium	Exposure Point	· Chemical		-	enic Risk ild + Adult		Chemical		Non-Caro	inogenic Hazai Young Child	rd Quotient	
				Ingestion	inhalation	Dermal	Exposure Routes Total		Primary Target Organ	ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Tap Water Residential Well - RW-002	Arsenic	8E-05			8E-05	Arsenic	Skin	1E+00			1E+00
			(total)	8E-05			8E-05	(Total)		1E+00			1E+00
<u> </u>	*************************************		Total Ris	Total Risk Across All Media and All Exposure Routes 8E-05				Tot	al Hazard Index A	cross All Med	dia and All Exp	osure Roules	II

- - = Not Evaluated

N/A = Not Applicable

Total Skin HI ≠	1E+00
Fotal Nervous System Hl ≖	N/A
Total Immune System HI =	N/A
Total Kidney Hi =	N/A
Total Blood HI =	N/A
Total Growth HI =	N/A
Total Liver HI =	N/A

TABLE 9.16.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Current Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Aduit

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk Young Child + Adult				Chemical	Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Tap Water Residential Well - RW-002	Arsenic	1E-05				Arsenic	Skin	4E-01			4E-01
			(total)	1E-05			1E-05	(Total)		4E-01			4E-01
			Total Risk Across All Media and All Exposure Routes 15-05				Tota	al Hazard Index A	cross All Med	lia and All Expo	osure Routes	4E-01	

-- = Not Evaluated

N/A = Not Applicable

Totał Skin Hi =	4E-01
Total Nervous System HI =	N/A
Total immune System HI =	N/A
Total Kidney HI =	N/A
Total Blood HI =	N/A
Total Growth HI =	N/A
Total Liver HI ≃	N/A

TABLE 9,17.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Current

Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		_	genic Risk nild + Adult		Chemical		Non-Card	inogenic Hazar Young Child	d Quotient	
				Ingestion	Inhalation	Dermal	Exposure		Primary	Ingestion	Inhalation	Dermal	Exposure
<u> </u>	<u> </u>						Routes Total		Tärget Organ				Routes Total
Groundwater	Groundwater	Tap Water	Bis(2-ethylhexyl)phthalate	3E-06		••	3E-06	Bis(2-ethylhexyl)phthalate	Liver	6E-02			6E-02
		Residential Well - RW-003											
	1		Antimony	N/A			N/A	Antimony	Blood	5E-01			5E-01
		•	Arsenic	1E-04		••	1E-04	Arsenic	Skin	2E+00			2E+00
			Manganese	N/A		••	N/A	Manganèse	Nervous System	9E-01			9E-01
			(lotal)	1E-04			1E-04	(Total)		3E+00			3E+00
			Total Risk Across All Media and All Exposure Routes 1E-04					Tot	al Hazard Index A	cross All Med	lla and Ali Expo	osure Routes	3E+00

-- = Not Evaluated

N/A = Not Applicable .

Total Skin HI =	2E+00
Total Nervous System HI =	9E-01
Total Immune System Hi =	N/A
Total Kidney Hi =	N/A
Total Blood HI ≃	5E-01
Total Growth Hi =	N/A
Total Liver HI =	6E-02

TABLE 9.17.CT

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Current Receptor Population: Resident Receptor Age: Young Child (Ages 1-8)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		`	enic Risk nild + Adult		Chemical	Non-Carcinogenic Hazard Quotient Young Child				
				ingestion Inhalation Dermal			Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Tap Water Residential Well - RW-003	Bis(2-ethylhexyl)phthaiate	3E-07			3E-07	Bis(2-ethylhexyl)phthalate	Liver	2E-02			2E-02
			Antimony	N/A			N/A	Antimony	Blood	2E-01		••	2E-01
			Arsenic	3E-05			3E-05	Arsenic	Skin	9E-01		••	9E-01
1			Manganese	N/A			N/A	Manganese	Nervous System	5E-01			5E-01
			(total)	3E-05		• •	3E-05	(Total)		2E+00		··	2E+00
	Total Risk Across All Media and All Exposure Routes							Total Hazard Index Across All Media and All Exposure Routes					2E+00

-- = Not Evaluated

N/A = Not Applicable

Total Skin HI =	9E-01
Total Nervous System Ht =	5E-01
Total Immune System Hi ≠	N/A
Total Kidney HI ≠	N/A
Total Blood Hi =	2E-01
Total Growth HI =	N/A
Total Liver HI =	2E-02

Salar Salar

TABLE 9.18.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Current Receptor Population: Resident Receptor Age: Young Child (Ages 1-8)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog Young Ch			Chemical	Chemicaí Non-Carcinogenic Hazard Quotii Young Child				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermai	Exposure Routes Total
Groundwater	Groundwater	Tap Water Residential Well - RW-004	Manganese	N/A			N/A	Manganese	Nervous System	9E-01			9E-01
			(total)	N/A			N/A	(Total)		9E-01			9€-01
Total Risk Across All Media and All Exposure Routes						N/A	Total Hazard Index Across Ali Media and All Exposure Routes					9E-01	

-- = Not Evaluated

N/A = Not Applicable

Total Skin HI =	N/A
Total Nervous System HI =	9E-01
Total Immune System HI =	N/A
Total Kidney ⊞I =	N/A
Total Blood HI =	N/A
Total Growth HI =	N/A
Total Liver HI ≕	N/A

TABLE 9.10.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future

Receptor Population: Park Visitor Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinogenic Risk Young Child + Adult				Chemical		Non-Carcinogenic Hazard Quotient Young Child					
					Ingestion	Inhalation	Dermal	Exposure Routes Total			Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total	
Sails	Sail/Sludge	Lagoon 3	Dioxin TEQ		2E-04		2E-05	2E-04 ·	Dioxin TEQ		N/A	N/A		N/A	N/A	
			Antimony		N/A			N/A	Antimony	·	Blood	3E-02			3E-02	
			Arsenic		6E-06		8 E -07	7E-06	Arsenic		Skin	1E•01		1E-02	1E-01	
			Cadmium		N/A		N/A	N/A	Cadmium		Kidney	2E+01		BE-02	2E-01	
			Chromium		N/A			N/A	Chromium	!	NOAEL	2E+01	••		2E+01	
			Manganese		N/A			N/A	Manganese		Nervous System	1E-01			1E-01	
}			Mercury	}	N/A			N/A	Mercury		Nervous System	4E-01		••	4E-01	
			Thallium	1	N/A			N/A	Thallium		NOAEL	3E-02	••		3E-02	
				(total)	2E-04		3⊑-05	2E-04		(Total)		3E+01		9E-02	3E+01	
Surface Waler	Surface Water	Lagoon 3	No samples						No samples							
				(total)	••			N/A	-	(Total)				•-	N/A	
<u> </u>	Total Risk Across Soll/Sludge						2E-04	Total Hazard Index Across All Media and All Exposure Routes 3E+01								
= Not Evaluated Total Risk Across Surface Water						N/A										
N/A = Not Applic	1.	Total Ris	k Across All Media	and All Expos	ure Routes	2E-04	Total Skin Hi = 1E-01						1E-01			

Total Skin HI = 1E-01 Total Nervous System HI = 5E-01 Total Immune System HI = N/A Total Kidney HI = 2E-01 Total Blood HI = 3E-02 Total Growth HI ≈ N/A Total Liver HI = N/A

TABLE 9.18.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Current Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medlum	Exposure Medium	Exposure Point	Chemical		Cardinog Young Ch			Chemical	Non-Carcinogenic Hazard Quotlent Young Child				
				Ingestion	inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater		Manganese	N/A			. N/A	Manganese	Nervous System	5E-01			5E-01
			(total)	N/A			N/A	(Total)		5E-01		••	5E-01
							N/A	Tot	ai Hazard Index A	crosa All Med	ila and All Expo	osure Routes	5E-01

-- = Not Evaluated

N/A = Not Applicable

Total Skin HI ≈ N/A Total Nervous System H! = 5E-01 Total Immune System HI = N/A Total Kidney HI = N/A Total Blood HI = N/A Total Growth HI ≈ N/A Total Liver HI ≃ N/A

TABLE 9.19.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Current

Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical			genic Risk Child + Adult		Chemical		Non-Card	cinogenic Hazai Young Child	rd Quatient	·
	,,,,,,			Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater		Methyl tert-butyl ether	N/A		••	N/A	Methyl tert-butyl ether	N/A	N/A			N/A
		Residential Well - RW-006	Bis(2-ethylhexyl)phthalate	9E-06	•-		9E-06	Bis(2-ethylhexyl)phthalate	Liver	2E-01			2E-01
			Thallium	N/A			N/A	Thallium	NOAEL	2E+00			2E+00
			(total)	9E-06			9E-06	(Total)		2€+00		••	2E+00
Total Risk Across All Media and All Exposure Routes								Total Hazard Index Across All Media and All Exposure Routes 2E					2E+00

-- = Not Evaluated

Total Skin Hi =	N/A
Total Nervous System HI =	N/A ·
	
Total Immune System HI =	
Total Kidney HI =	N/A
Total Blood HI =	N/A
Total Growth HI =	N/A
Total Liver HI =	2E-01

TABLE 9.19.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe; Current Receptor Population: Resident Receptor Age; Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk Young Child + Adult				Chemiçal	Non-Carcínogenic Hazard Quotient Young Child			d Quotient	
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermai	Exposure Routes Total
Groundwater	Groundwater		Methyl tert-butyl ether	N/A		••	N/A	Methyl tert-butyl ether	N/A	N/A			N/A
			Bis(2-ethylhexyl)phthalate	9E-07			9E-07	Bis(2-ethylhexyl)phthalate	Liver	5E-02			5E-02
			Thallium	N/A			N/A	Thallium	NÓAEL	1E+00			1E+00
			(total)	9E-07			9E-07	(Total)		1E+00			1E+00
<u> </u>			ure Routes	9E-07	Tot	al Hazard Index A	cross All Med	lia and All Expo	sure Routes	1E+00			

- · = Not Evaluated

Total Skin HI =	N/A
Total Nervous System HI =	N/A
Total Immune System HI =	N/A
Total Kidney HI =	N/A
Total Blood Hi =	N/A
Total Growth HI =	N/A
Total Liver Hi =	5E-02

TABLE 9.20.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Current Receptor Population: Resident Receptor Age: Young Child (Ages 1-8)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		•	enic Risk ild + Adult		Chemical			sinogenic Haza Young Child		
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Tap Water Residential Well - RW-007	Antimony Arsenic	N/A 1E-05			N/A 1E-05	Antimony Arsenic	Blood Şkin	5E-01 2E-01			5E-01 2E-01
	<u></u>		(total) Total Ris	1E-05 k Across All Media	and All Expos	ure Routes	1E-05	(Total)	al Hazard Index A	6E-01 cross All Med	dia and All Expe	osure Routes	

- - = Not Evaluated

Total Skin HI =	2E-01
Total Nervous System HI =	N/A
Total immune System HI =	N/A
Total Kidney HI =	N/A
Total Blood HI =	5E-01
Total Growth HI ≠	N/A
Total Liver HI =	N/A

TABLE 9.20.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Current Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog Young Ch			Chemical		Non-Carcinogenic Hazard Quotient Young Child					
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total		
Groundwater	Groundwater	Tap Water Residential Well - RW-007	Antimony Arsenic	N/A 2E-06			N/A 2E-06	Antimony Arsenic	Blood Skin	2E-01 8E-02			2E-01 8E-02		
			(total)	2E-06			2E-06	(Total)		2E-01		••	2E-01		
Total Risk Across All Media and All Exposure Routes 2E-06							1/	ai Hazard Index A		dia and All Expo	osure Routes	2E-01			

-- = Not Evaluated

ı	
Total Skin HI =	8E-02
Total Nervous System HI =	N/A
Total Immune System HI =	N/A
Total Kldney HI =	N/A
Total Blood HI =	2E-01
Total Growth Ht =	N/A
Total Liver HI =	N/A

TABLE 9.21,RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Current Receptor Population: Resident Receptor Age; Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinogenic Rísk Young Child + Adult		Chemical		Non-Card	sinogenic Hazar Young Child	rd Quotient		
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Tap Water Residential Well - RW-008	Arsenic	8E-05 N/A		**	BE-05 N/A	Arsenic Manganese	Skin Nervous System	1E+00			1E+00 2E+00
			(total)	8E-05	••		B É- 05	(Tota	1	3E+00			3E+00
<u> </u>			Total Ris	k Across All Media	and All Expos	ure Routes	8E-05	· · · · · · · · · · · · · · · · · · ·	olal Hazard Index A	cross All Med	dia and All Expo	sure Routes	1

-- = Not Evaluated

Total Skin Hi =	1E+00
Total Nervous System Hi =	2E+00
Total Immune System HI =	N/A
Total Kidney HI =	N/A
Total Blood HI =	N/A
Total Growth HI ≠	N/A
Total Liver HI =	N/A

TABLE 9.21.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe; Current

Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium Exposure Exposure Chemical Carcinogenic Risk Chemical Non-Carcinogenic Hazard Quotient Medium Point Young Child + Adult Young Child Ingestion Inhalation Dermal Exposure Primary Ingestion Inhalation Exposure Routes Total Target Organ Routes Total Groundwater Tap Water Groundwater Arsenic 1E-05 - -1E-05 Arsenic Skin 5E-01 5E-01 - • Residential Well - RW-008 Manganese N/A 8E-01 BE-01 N/A Manganese Nervous System (total) 1E-05 1E-05 (Total) 1E+00 1E+00

1E-05

Total Risk Across All Media and All Exposure Routes

-- = Not Evaluated

N/A = Not Applicable

Total Skin HI ≈	5E-01
Total Nervous System Hi =	8E-01
Total Immune System HI ≈	N/A
Total Kidney HI ≠	N/A
Total Blood HI =	N/A
Total Growth HI =	N/A
Total Liver HI =	N/A

1E+00

Total Hazard Index Across All Media and Ali Exposure Routes

TABL

TABLE 9.22,RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Current

Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical	Chemical Carcinogenic Risk Young Child + Adult				Chemical		Non-Card	inogenic Hazar Young Child	izard Quotient iild		
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total	
Groundwater	Groundwater		Arsenic Manganese	4E-05 N/A			4E-05 N/A	Arsenic Manganese	Skin Nervous System	5E-01 3E+00			5E-01 3E+00	
			(to	tal) 4E-05			4E-05	(Total)		3E+00			3E+00	
	Total Risk Across All Media and All Exposure Routes							Total Hazard Index Across All Media and All Exposure Routes				3E+00		

- - = Not Evaluated

Total Skin HI =	5E-01
Total Nervous System HI =	3E+00
Total Immune System HI =	N/A
Total Kidney Hi =	N/A
Total Blood H! =	N/A
Total Growth Hi ≈	N/A
Total Liver HI =	N/A

TABLE 9.22.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Current Receptor Population; Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemicel Carcinogenic Risk Young Child + Adult				Chemical Non-Carcinogenic Hazard Qi Young Child			rd Quotient	Quotient		
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Tap Water	Arsenic Manganese	8E-06 N/A			8E-06 N/A	Arsenic Manganese	Skin Nervous System	3E-01			3E-01 2E+00
			(tota	al) 8E-06			8E-06	(Yotal)		2E+00			2E+00
	Total Risk Across All Media and All Exposure Routes							Total Hazard Index Across All Media and All Exposure Route				sure Routes	2E+00

-- ≠ Not Evaluated

N/A = Not Applicable

Total Skin HI = 3E-01 Total Nervous System HI = 2E+00 Total Immune System HI = N/A Total Kidney HI = N/A Total Blood HI = N/A Total Growth HI = N/A Total Liver HI = N/A

TABLE 9.23.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future

Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk Young Child + Adult				Chemical		Non-Card	inogenic Haza Young Child	rd Quotient	
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soils	Soil	Warehouse Area	Acetophenone	N/A			N/A	Acetophenone	NOAEL	5E-06	•-	••	5E-06
			Benzo(a)anthracene	1E-07		6E-08	2E-07	Benzo(a)anthracene	N/A	N/A	••	N/A	N/A
			Benzo(a)pyrene	1E-06		7E-07	2E-06	Benzo(a)pyrene	N/A	N/A	••	N/A	N/A
			Benzo(b)fluoranthene	3E-07		25-07	4E-07	Benzo(b)fluoranthene	N/A	N/A		N/A	N/A
	ļ		Dibenz(a,h)anthracene	9E-07	[5E - 07	18-06	Dibenz(a,h)anthracene	N/A	N/A		N/A	N/A
			Indeno(1,2,3-cd)pyrene	9E-08		5E-06	1E-07	Indeno(1,2,3-cd)pyrene	N/A	N/A		N/A	N/A
			Dioxin TEQ	1E-06	:	1E-07	1E-06	Dioxin TEQ	N/A	N/A		N/A	N/A
			Arsenic	7E-06		9E-07	8E-06	Arsenic	Skin	1E-01		2E-02	1E-01
			Chromium	N/A			N/A	Chromium	NOAEL	6E-02			6E-02
			Manganese	N/A			N/A	Manganese	Nervous System	5 E -02			5E-02
			Mercury	N/A			N/A	Mercury	Nervous System	6E-03			6E-03
			Thallium	N/A			N/A	Thallium	NOAEL	4E-01	••	••	4E-01
			Vanadium	N/A			N/A	Vanadium	NOAEL	8E-03	•-		8E-03
			(lotal)	1E-05		2E-06	1E-05	(Total)		7E-01	••	2E-02	7E-01
			Total Risi	Across All Media	and All Expos	ure Routes	1E-05	Tot	al Hazard Index Ac	rose All Mac	is and All Expo	ngure Routes	7E-01

-- = Not Evaluated

Total Skin HI =	1E-01
Tota! Nervous System Hi ≍	6Ë-02
Total Immune System HI =	N/A
Total Kidney HI =	N/A
Total Blood Hi =	N/A
Total Growth HI =	N/A
Total Liver HI =	N/A

TABLE 9.23,CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPC® CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population; Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk Young Child + Adult				Chemical		Non-Cardinogenic Hazard Quotlent Young Child				
				Ingestion	Inhalation	Dermai	Exposure		Primary	Ingestion	Inhalation	Dermal	Exposure	
					<u> </u>		Routes Total	<u> </u>	Target Organ				Routes Total	
Soils	Soit	Warehouse Area	Acetophenone	N/A		•-	N/A	Acetophenone	NOAEL	3⊵-06			3E-06	
			Benzo(a)anthracene	2E-08	••	2E-08	4Ë-08	Benzo(a)anthracene	N/A	N/A		N/A	N/A	
			Benzo(a)pyrene	2E-07		2E-07	4E-07	Benzo(a)pyrene	N/A	N/A	••	N/A	N/A	
ļ			Benzo(b)fluoranthene	5E-08		5E-08	1E-07	Benzo(b)fluoranthene	N/A	N/A		N/A	N/A	
			Dibenz(a,h)anthracene	1E-07	•••	2E-07	3 ∈- 07	Dibenz(a,h)anthracene	N/A	N/A	,.	N/A	N/A	
			Indeno(1,2,3-cd)pyrene	1E-08		2E-08	3E-08	indeno(1,2,3-cd)pyrene	N/A	N/A		N/A	N/A	
			Dioxin TEQ	2E-07		4E-08	2E-07	Dioxin TEQ	N/A	N/A		N/A	N/A	
			Arsenic	1E-06		3 E- 07	1E-06	Arsenic	Skin	6E-02		2E-02	8E-02	
ļ			Chromium	N/A			N/A	Chromium	NOAEL	3E-02			3E-02	
			Manganese	N/A			N/A	Manganese	Nervous System	3E-02		••	3Ę-02	
			Mercury	N/A			N/A	Mercury	Nervous System	3E-03	••	••	3⋶-03	
			Thallium ·	N/A		••	N/A	Thailium	NOAEL	2E-01	••	• •	2E-01	
			Vanadium	N/A			N/A	Vanadium	NOAEL	4E-03			4 E -03	
			(total)	2E-06		8E-07	2E-06	(Total)		3E-01		2E-02	3E-01	
	Total Risk Across All Media and All Exposure Routes							Total Hazard Index Across All Media and All Exposure Route					3E-01	

- - = Not Evaluated

1	
Total \$kin Hi ≃	8E-02
Total Nervous System HI =	3E-02
Total Immune System HI =	N/A
Total Kldney HI ≂	N/A
Total Blood HI =	N/A
Total Growth Hi =	N/A
Total Liver HI =	N/A

TABLE 9.24.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Resident Receptor Age: Young Uhild (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical	Chemical Carcinogenic Risk Young Child + Adult				Chemical	Non-Carcinogenic Hazard Quolient Young Child				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	On-Site Monitoring Well	Methylene chloride	3E-06		••	3E-06	Methylene chloride	Liver	4E-02	•-		4달-02
			Antimony	N/A			N/A	Antimony	Blood	4E-01	••	~ •	4E-01
1			Arsenic	4E-05	;		4E-05	Arsenic	Skin	5E-01			5E-01
			Chromium	N/A			N/A	Chromium	NOAEL	7E-04	••	••	7E-04
			Manganese	N/A			N/A	Manganese	Nervous System	9E-01	••	••	9E-01
			Thallium	N/A			N/A	Thallium	NOAEL	1E+00			1E+00
			(total)	4E-05			4E-05	(Total)		3E+00	•	- -	3E+00
L 	Total Risk Across All Media and All Exposure Rout							4E-05 Total Hazard Index Across Ali Media and All Exposure R				sure Routes	3E+00

-- = Not Evaluated

Total Skin HI =	5E-01
Total Nervous System HI =	9E-01
Total Immune System HI =	N/A
Total Kidney HI =	N/A
Total Blood HI =	4E-01
Total Growth HI ≃	N/A
Total Liver H! =	4E-02

TABLE 9.24.CT

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future

Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk Young Child + Adult				Chemical	Non-Carcinogenic Hazard Qu Young Child				otient	
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	ingestion	Inhalation	Dermal	Exposure Routes Total	
Groundwater	Groundwater	On-Site Monitoring Well MW-101U	Methylene chloride	3E-07			3E-07	Methylene chloride	Liver	9E-03			9E-03	
1			Antimony	N/A		· ••	N/A	Antimony	Blood	1E-01]	•••	1E-01	
			Arseniç	3E-06			3E-06	Arsenic	Skin	1E-01			1E-01	
			Chromium	N/A			N/A	Chromium	NOAEL	2E-04			2E-04	
			Manganese	N/A			N/A	Manganese	Nervous System	2E-01			2E-01	
j l			Thalilum	N/A			N/A	Thallium	NOAEL	5E-01			5E-01	
			(total)	3E-06			3E-06	(Total)		1Ё+00	••	••	1E+00	
	Total Risk Across All Media and All Exposure Routes							To	tal Hazard Index Ac	ross All Mad	is and All Eyno	eure Routes	1E+00	

-- = Not Evaluated

N/A = Not Applicable

Total Skin Hi ≃ 1E-01 Total Nervous System HI = 2E-01 Total Immune System Hi = N/A Total Kidney HI = N/A Total Blood HI = 1E-01 Total Growth HI = N/A Total Liver Hi ≠ 9E-03

TAB

TABLE 9.25.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe; Future Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical	Chemical Carcinogenic Risk Young Child + Adult				Chemica)		Non-Card	tinogenic Hazar Young Child		
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	On-Site Monitoring Well	Arsenic	7E-06		••	7E-06	Arsenic	Skin	8E-02		••	8E-02
			(total)	7E-06		••	7E-06	(Total)		8E-02			8E-02
	Total Risk Across All Media and Ali Exposure Routes 76-06							Tota	al Hazard Index A	cross Ali Me	dia and All Exp	sure Routes	1,

- . = Not Evaluated

Total Skin HI =	8E-02
Total Nervous System HI =	N/A
Total immune System HI =	N/A
Total Kldney HI =	N/A
Total Blood HI =	N/A
Total Growth HI =	N/A
Total Liver HI =	N/A

TABLE 9.25.CT

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY

POWNAL TANNERY

Scenaric Timeframe: Future Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog Young Ch			Chemical		Non-Card	inogenic Hazar Young Child		
				Ingestion	Inhaiation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	On-Site Monitoring Well MW-102U	Arsenic	1E-06			1E-06	Arsenic	Skin	5E-02	••		5E-02
			(total)	1E-06	*-		1E-06	(Total)		5E-02	•		5E-02
Total Risk Across All Media and All Exposure Routes							1E-06	Tob	al Hazard Index A	cross All Med	dia and All Expo	osure Routes	

-- = Not Evaluated

Total Skin HI ≠	5E-02
Total Nervous System HI =	N/A
Total Immune System HI =	N/A
Total Kidney HI ≠	N/A
Total Blood HI ≖	N/A
Total Growth HI≃	N/A
Total Liver HI =	N/A

TABLE 9.26.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical			Carcinogo Young Chl			Chemical		Non-Caro	inogenic Hazar Young Child		
					Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermai	Exposure Routes Total
Groundwater	Groundwater	On-Site Monitoring Well	Antimony Arsenic		N/A 5E-06			N/A 5E-05	Antimony Arsenic	Slood Skin	5E-01 6E-01			5E-01 6E-01
			Manganese	(total)	N/A 5E-05		••	N/A 5E-05	Manganese (Total)	Nervous System	5E-01 2E+00		••	5E-01 2E+00
		<u> </u>	Total Risk Across All Media and All Exposure Routes					5E-05	Tat	Total Hazard Index Across Ali Media and Ali Exposure Ro				2E+00

- - = Not Evaluated

Total Skin HI =	6E-01
Total Nervous System HI ≠	5E-01
Total Immune System HI =	N/A
Total Kldney HI =	N/A
Total Blood HI =	5Ë-01
Total Growth HI =	N/A
Total Liver HI ≃	N/A

TABLE 9.26.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical Chemical		Cardinogo Young Chi			Chemical		Non-Caro	ilnogenic Haza Young Child	rd Quotient	
				Ingestion	inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	MW-103R	Antimony Arsenic Manganese (total)	N/A 8E-06 N/A 8E-06			BE-06	Antimony Arsenic Manganese (Total)	Blood Skin Nervous System	2E-01 3E-01 2E-01 7E-01		••	2E-01 3E-01 2E-01 7E-01
Total Risk Across All Media and All Exposure Routes							BE-06 Total Hazard Index Across All Media and All Exposur					7E-01	

-- = Not Evaluated

Total Skin HI =	3E-01
Total Nervous System HI =	2E-01
Total Immune System HI =	N/A
Total Kidney HI =	N/A
Total Blood HI =	2E-01
Total Growth HI =	N/A
Total Liver HI ⇒	N/A

TABLE 9.27.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population; Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical			enic Risk ild + Adult		Chemical		Non-Carc	inogenic Hazar Young Child		
	L			Ingestion	Inhalation	Dermal	Exposure Routes Total	·	Primary Target Organ	ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	On-Site Monitoring Well	Агзеліс	2E-05			2E-05	Arsenic	Skin	3E-01		••	3E-01
			(total)	2E-05			2E-05	(Total)		3E-01			3E-01
)		·	Total Risk Across All Media and All Exposure Routes				2E-05	Tot	al Hazard Index A	cross All Med	dia and All Expo	sure Routes	3E-01

-- = Not Evaluated

Totál Skin Hí =	3E-01
Total Nervous System HI =	N/A
Total Immune System HI =	N/A
Total Kidney HI ⇒	N/A
Total Blood HI =	N/A
Total Growth HI =	N/A
Total Liver HI =	N/A

TABLE 9.27.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		-	enic Risk ild + Adult		Chemical		Non-Card	inogenic Hazai Young Child		
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	On-Site Monitoring Well MW-103U	Arsenic	3E-06			3E-06	Arsenic	Skin	9E-02		. .	9E-02
			(total)	3E-06			3E-06	(Total)		9E-02			9E-02
Total Risk Across All Media and All Exposure Routes						3E-06	Total Hazard Index Across All Media and All Exposure Rou				osure Routes	9E-02	

-- = Not Evaluated

Total Skin HI =	9E-02
Total Nervous System HI =	N/A
Total Immune System HI =	N/A
Total Kidney HI ≈	N/A
Total Blood HI =	N/A
Total Growth HI =	N/A
Total Liver HI =	N/A

TABLE 9.28.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe; Future

Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		-	enic Risk ild + Adult		. Chemical		Non-Card	cinogenic Hazad Young Child		
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	On-Site Monitoring Well MW-104U	Arsenic Manganese (tota	6E-05 N/A 1) 6E-05			6E-05 N/A 6E-05	Arsenic Manganese (Tota	Skin Nervous System	7E-01 4E+00 5E+00		·• ·-	7E-01 4E+00 5E+00
Total Risk Across All Media and All Exposure Routes 6E-05							6E-05	To	ital Hazard Index A		dia and Ali Expe	sure Routes	5E+00

-- = Not Evaluated

Total Skin HI =	7E-01
Total Nervous System HI =	4E+00
Total Immune System HI =	N/A
Total Kidney HI =	N/A
Total Blood HI ≃	N/A
Total Growth HI =	N/A
Total Liver H≀ =	N/A

TABLE 9.28.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medlum	Exposure Medium	Exposure Point	Chemical		Carcinogo Young Chi			Chemical		Non-Card	inogenic Hazar Young Child		
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	On-Site Monitoring Well MW-104U	Arsenic Manganese	1E-05 N/A		••	1E-05 N/A	Arsenic Manganese	Skin Nervous System	4E-01 2E+00			4E-01 2E+00
			(total)	1E-05 k Across All Media	and All Exposi	ure Routes	1E-05	(Total)	al Hazard Index A		fia and All Eye		

-- = Not Evaluated

Total Skin HI =	4E-01
Total Nervous System HI =	2E+00
Total Immune System HI =	N/A
Total Kidney HI ≈	N/A
Total Blood HI =	N/A
Total Growth HI =	N/A
Total Liver HI ≈	N/A

TABLE 9.29.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenarlo Timeframe: Future

Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		•	enic Risk ild + Adult		Chemical		Non-Card	inogenic Hazər Young Child		
				Ingestion	Inhalation	Dermai	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	On-Site Monitoring Well	Arsenic Manganese	5E-05 N/A		••	5E-05 N/A	Arsenic	Skin Nervous System	6E-01 2E+00			6E-01 2E+00
			(total)	5E-05			5E-05	(Total)		2E+00	••		2E+00
		·	Total R	sk Across All Media			5Ê-05	Total Hazard Index Across All Media and All Exposure R.				osure Routes	11 -

-- = Not Evaluated

Total Skin HI =	6E-01
Total Nervous System HI =	2E+00
Total immune System HI =	N/A
Total Kidney HI =	N/A
Total Blood Hi ≃	N/A
Total Growth HI =	N/A
Total Liver Hi ≃	N/A

TABLE 9,29,CT

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future

Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical			enic Risk ild + Adult		Chemical .		Non-Card	inogenic Hazar Young Child		
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater		Arsenic Manganese	5E-06 N/A			5E-06 N/A	Arsenic Manganese	Skin Nervous System	2E-01 4E-01			2E-01 4E-01
			(total)	5E-06			5E-06	(Total)	,	6E-01			6E-01
			Total Ri	sk Across All Media	and All Expos	ure Routes	5E-06	Tot	ai Hazard Index A	ross All Med	lia and All Expo	sure Routes	6E-01

-- = Not Evaluated

N/A = Not Applicable

Total Skin HI = 2E-01 Total Nervous System HI = 4E-01 Total Immune System HI = N/A Total Kidney HI ≃ N/A Total Blood HI = N/A Total Growth HI = N/A Total Liver HI = N/A

TABLE 9,30,RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog Young Ch			Chemical		Non-Card	inogenic Hazai Young Child	rd Quotient	
				Ingestion	Ingestion Inhalation Dermal				Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	On-Site Monitoring Well	Dioxin TEQ	9E-06		••	9E-06	Dioxin TEQ	N/A	N/A	••	• •	N/A
			Arsenic	2E-04			2E-04	Arsenic	Skin	3E+00			3E+00
			Manganese	N/A			N/A	Manganese	Nervous System	6E+00			6E+00
			(total)	2E-04			2E-04	(Total)		9E+00	•	••	9E+00
/			Total Ri	sk Across All Media	and All Expos	ure Routes	2E-04	Total Hazard Index Across All Media and All Exposure Route				sure Routes	9E+00

-- = Not Evaluated

Total Skin Hi =	3E+00
Total Nervous System Ht =	6E+00
Total Immune System Ht =	N/A
Total Kidney HI =	N/A
Total Blood H! =	N/A
Total Growth HI =	N/A
Total Liver HI =	N/A

TABLE 9.30.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe; Future Receptor Population: Resident Receptor Age: Young Child (Ages 1-8)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinogenic Risk Young Child + Adult				Chemical	Non-Carcinogenic Hazard Guolient Young Child					
					Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total	
Groundwater	Groundwater	On-Site Monitoring Well			2E-06			2E-06	Dioxin TEQ	N/A	N/A			N/A	
			Arsenic	j	3E-05			3E-05	Arsenic	Skin	1E+00			1E+00	
]			Manganese	L	N/A			N/A	Manganese	Nervous System	3E+00			3E+00	
				(total)	3E-05			3E-05	(Total)	,	4E+00	••		4E+00	
			'' Т	otal Risi	k Across All Media	and All Expos	ure Routes	3E-05	То	tal Hazard Index A	cross All Med	lia and All Expo	sure Routes	4E+00	

-- = Not Evaluated

N/A = Not Applicable

Total Skin HI = 1E+00 Total Nervous System HI = 3€+00 Total Immune System HI = N/A Total Kidney HI = N/A Total Blood Ht = N/A Total Growth Hi ≃ N/A Total Liver HI = N/A

TABLE 9.31 RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Resident Receptor Age: Young Child (Ages 1-8)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		_	enic Risk ild + Adult		Chemical		Non-Card	ilnogenic Hazai Young Child	rd Quotient	
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	MW-107U	Antimony Arsenic Manganese	N/A 9E-05 N/A			N/A 9E-05 N/A	Antimony Arsenic Manganese	Blood Skin Nervous System	4E-01 1E+00 1E+01			4E-01 1E+00 1E+01
) 9E-05 isk Across All Media	and All Expos	ure Routes	9E-05 9E-05	(Total)	tal Hazard Index Ad	2E+01 cross All Med	dia and All Expo	osuré Routes	2E+01 2E+01

-- = Not Evaluated

Total Skin HI ≖	1E+00
Total Nervous System HI =	1E+01
Total Immune System HI =	N/A
Total Kidney HI =	N/A
Total Blood HI =	4E-01
Total Growth HI ≃	N/A
Total Liver Hi =	N/A

TABLE 9.31.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinoge Young Chi			Chemical Non-Carcinogenic Hazard Que)uotient	
			-	Ingestion	Inhalation	Dermal	Exposure Routes Total]	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	On-Site Monitoring Well		N/A 2E-05		••	N/A 2É-05	Antimony Arsenic	Blood Skin	1E-01 6E-01	:-	••	1E-01 6E-01
			Manganese (total)	N/A 2E•05		••	N/A 2E-05	Manganese (Total)	Nervous System	6E+00 7E+00			6E+00 7E+00

-- = Not Evaluated

N/A = Not Applicable

Total Skin HI = 6E-01 Total Nervous System HI = 6E+00 Total Immune System Ht = N/A Total Kidney Hi = N/A Total Blood Hi = 1E-01 Total Growth Hi ≃ N/A Total Liver HI = N/A

TABLE 9.32.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog Young Ch			Chemical	Non-Carcinogenic Hazard Quotient Young Child					
•	, industrial			Ingestion	Ingestion Inhalation Dermal				Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total	
Groundwater	Groundwater	On-Site Monitoring Well	Carbon tetrachloride	2E-06		. 	2E-06	Carbon tetrachloride	Liver	1E-01		••	16-01	
		Jarr-1830	Heptachlor epoxide	2E-06			2E-06	Heptachtor epoxide	Liyer	1E-01			1E-01	
,		·	Arsenic	6Ë-04		**	6 É -04	Arsenic	Skin	7E+00	·-		7E+00	
			Manganese	N/A			N/A	Manganese	Nervous System	2E+01			2E+01	
			Thallium	N/A			N/A	Thallium	NOAEL	9E+00			9E+00	
			(total)	6E-04			6E-04	(Total)		3E+01			3E+01	
L	<u> </u>	<u> </u>	Total Ris	k Across All Media	and All Expos	ure Routes	6E-04	Total Hazard Index Across All Media and All Exposure Ro				osure Routes	3E+01	

-- = Not Evaluated

Total Skin Hi =	7E+00
Total Nervous System HI =	2E+01
Total Immune System HI ≈	N/A
Total Kidney HI =	. N/A
Total Blood HI ≈	N/A ·
Total Growth HI =	N/A
Total Liver HI =	2E-01

TABLE 9.32.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Expasure Medium	Exposure Point	Chemical		Cardinogo Young Chi			Chemical		Non-Card	sinogenic Hazai Young Child		
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	On-Site Monitoring Well MW+109U	Carbon tetrachloride	3E-07			3E-07	Carbon tetrachloride	Liver	5E-02			5E-02
			Heptachlor epoxide 4E-07			**	4E-07	Heptachlor epoxide	Liver	6E-02			6E-02
			Arsenic	1E-04			1E-04	Arsenic	Skin	3E+00			3E+00
			Manganese	N/A			N/A	Manganese	Nervous System	9E+00			9E+00
			Thallium	N/A			N/A	Thallium	NOAEL	2E+00			2E+00
			(total)	1E-04			1E-04	(Total)		1E+01	••		1E+01
Total Risk Across All Media and All Exposure Routes								Tot	al Hazard Index A	cross All Med	ila and All Expe	osure Routes	1E+01

-- = Not Evaluated

Total Skin HI =	3E+00
Total Nervous System HI =	9E+00
Total Immune System HI =	N/A
Total Kidney HI =	N/A
Total Blood HI ⊭	N/A
Total Growth HI ≃	N/A
Total Liver HI =	1E-01

TABLE 9.33.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe; Future Receptor Population; ResIdent Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		•	enic Risk ild + Adult		Chemical		Non-Care	cinogenic Haza Young Child	rd Quolient	
	<u> </u>			Ingestion Inhalation Dermal Exposure Routes Total				Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total	
Groundwater	Groundwater	On-Site Monitoring Well MW-110R	Manganese	1E-04 N/A			1E-04 N/A	Arsenic Manganese	Skin Nervous System	2E+00 7E+00			2E+00 7E+00
			(total)	1E-04 1E-04 sk Across All Media and All Exposure Routes 1E-04				(Total)	al Hazard Index A	9E+00 cross All Me	dla and Ali Exp	osure Routes	9E+00 9E+00

-- = Not Evaluated

Total Skin HI =	2E+00
Total Nervous System HI =	7E+00
Total immune System HI =	N/A
Total Kidney H! ≃	N/A
Total Blood HI ≠	N/A
Total Growth HI =	N/A
Total Liver HI =	N/A

TABLE 9.33.CT

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical			Carcinog Young Ch	enic Risk		Chemical		Non-Card	Inogenic Hazar Young Child	d Quotient	
	<u> </u>							Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	On-Site Manitoring Well MW-110R	Arsenic Manganese		3E-05 N/A	: :		3E-05 N/A	Arsenic Manganese	Skin Nervous System	9E-01 4E+00		••	9E-01 4E+00
			(to	otal)	3E-05			3É-05	(Total)		5E+00			5E+00
			Tota	Total Risk Across All Media and All Exposure Routes					To	Total Hazard Index Across All Media and All Exposure Route				5E+00

-- = Not Evaluated

N/A ≠ Not Applicable

Total Skin HI =	9E-01
Total Nervous System HI =	4E+00
Total Immune System HI =	N/A
Total Kidney HI ≠	N/A
Total Blood Hi =	N/A
Total Growth HI =	N/A
Total Liver HI =	N/A

TAB

TABLE 9.34 RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinogo Young Chi			Chemical	Non-Carcinogenic Hazard Quotie Young Child			rd Quotient	!
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater		Methylene chloride	2E-06			2E-06	Methylene chloride	Liver	2E-02			2E-02
		}	Pentachlorophenol	2E-06			2E-06	Pentachlorophenol	Kidney	3E-03			3E-03
			Antimony	N/A			N/A	Antimony	Blood	4E-01			4E-01
			Arsenic	6E-05			6E-05	Arsenic	Skin	8€-01			8E-01
			Manganese	N/A			N/A	Manganese	Nervous System	6E+00			6E.+00
			(lotal)	7E-05			7E-05	(Total)		7뜬+00			7E+00
	Total Risk Across All Media and All Exposure Roules						7E-05	Total Hazard Index Across All Media and All Expos			osure Routes	7E+00	

-- = Not Evaluated

Total Skin HI =	8E-01
Total Nervous System HI =	6E+00
Total Immune System HI =	N/A
Total Kidney HI =	3E-03
Total Blood HI =	4E-01
Total Growth HI =	N/A
Total Liver HI ≈	2E-02

TABLE 9.34.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Resident Receptor Age: Young Child (Ages 1-8)/Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk Young Child + Adult						Non-Card	inogenic Hazar Young Child		
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwaler	Groundwater	On-Site Monitoring Well MW-110U	Methylene chloride	2E-07		:	2E-07	Methylene chloride	Liver	6E-03	•-	••	6 E- 03
			Pentachlorophenol	4E-07			4E-07	Pentachlorophenol	Kidney	2E-03			2E-03
			Antimony	N/A			N/A	Antimony	Blood	2E-01		••	2E-01
			Arsenic	8E-06			8E-06	Arsenic	Skin	3E-01			3€-01
			Manganese	N/A			N/A	Manganese	Nervous System	2E+00			2E+00
			(total)	8E-06			8E-06	(Total)		3E+00			3€+00
			8E-06					sure Routes	3E+00				

-- = Not Evaluated

Total Skin Hi =	3E-01
Total Nervous System HI =	2E+00
Total Immune System HI =	N/A
Total Kidney HI =	2E-03
Total Blood H! =	2E-01
Total Growth HI ≃	N/A
Total Liver HI ≃	6E-03

TABLE 9.35,RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future

Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		_	enic Risk ild + Adult		Chemical		Non-Card	inogenic Haza Young Child	rd Quatient	
				Ingestion	Ingestion Inhalation Dermal				Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
ļ							Routes Total	\ <u></u>	raiger Organ				1700183 10181
Groundwater	Groundwater	On-Site Monitoring Well	Antimony	N/A			N/A	Antimony	Blood	5E-01	•		5E-01
		MW-111U	Arsenic	2E-05			2E-05	Arsenic	Skin	2E-01			2E-01
		;	Manganese	N/A			N/A	Manganese	Nervous System	3E+00			3E+00
			(tot	al) 2E-05			2E-05	(Total)		3E+00			3E+00
Total Risk Across All Media and All Exposure Routes							2E-05	05 Total Hazard Index Across All Media and All Exposure Rol					3E+00

-- = Not Evaluated

Total Skin HI =	2E-01
Total Nervous System HI =	3E+00
Total immune System Hi =	N/A
Total Kidney HI =	N/A
Total Blood HI =	5E-01
Total Growth HI =	N/A
Total Liver HI =	N/A

TABLE 9.35,CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Resident Receptor Age; Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk Young Child + Adult				Chemical	Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	On-Site Monitoring Well	Antimony Arsenic Manganese (total	N/A 3E-06 N/A 3E-06			N/A 3E-06 N/A 3E-06	Antimony Arsenic Manganese (Total)	Blood Skin Nervous System	1E-01 1E-01 1E+00 1E+00	 	 	1E-01 1E-01 1E+00 1E+00
<u> </u>	Total Risk Across All Media and All Exposure Routes							Total Hazard Index Across All Media and All Exposure Routes					1E+00

-- = Not Evaluated

N/A = Not Applicable

Total Skin HI = 1E-01 Total Nervous System Hi = 1E+00 Total Immune System Hi = N/A Total Kldney HI = N/A Total Blood Hi = 1E-01 Total Growth Hi ≃ N/A Total Liver HI = N/A

TABLE 9.36.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposute Medium	Exposuré Point	Chemical	cal Carcinogenic Risk Young Child + Adult				Chemical	Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	On-Site Monitoring Well MW-112U	Antimony Arsenic	N/A 3E-05		••	N/A 3E-05	Antimony Arsenic	Blood Skin	8E-01 3E-01			8E-01 3E-01
			(total)	3E-05			3E-05	(Total)		1E+00			1E+00
<u> </u>	Total Risk Across All Media and All Exposure Routes							Total Hazard Index Across All Media and All Exposure Routes 1E+00					1E+00

-- = Not Evaluated

Total Skin HI =	3E-01
Fotal Nervous System HI ≂	N/A
Total Immune System HI =	N/A
Total Kidney HI =	N/A
Total Blood HI =	8E-01
Totại Growth HI =	N/A
Total Liver HI =	N/A

TABLE 9.36.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Resident Receptor Aga: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk Young Child + Adult				Chemical		Non-Card	inogenic Hazaı Young Child		
				Ingestion Inhalation Dermal Exposure Routes Total				Primary Target Organ	ingestion	inhalation	Dermal	Exposure Routes Total	
Groundwater	Groundwater	1	Antimony Arsenic	N/A 4E-06			N/A 4E-06	Antimony Arsenic	Blood Skin	3É-01			3E-01 1E-01
		_	(total)	4E-06			4E-06	(Total)		4E-01			4E-01
							4E-06	Total Hazard Index Across All Media and All Exposure Routes				4E-01	

· -- = Not Evaluated

N/A = Not Applicable

Total Skin HI = 1E-01 Total Nervous System HI = N/A Total Immune System HI = N/A Total Kidney HI = N/A 3E-01 Total Blood HI = Total Growth HI = N/A Total Liver HI = N/A

TABLE 9.37.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk Young Child + Adult				Chemical		Non-Card	sinogenic Hazar Young Child	rd Quotient	
				Ingestion	Inhalation	Derma!	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwaler	Groundwater	On-Site Monitoring Well MW-113R	Arsenic Manganese	2E-03 N/A			2E-03	Arsenic Manganese	Skin Nervous System	2E+01 5E+00			2E+01 5E+00
			(total)	2E-03 Across All Media			2E-03 2E-03	(Total)	al Hazard Index A	2E+01	dia and All Tons		2E+01 2E+01

-- = Not Evaluated

Total Skin HI =	2E+01
Total Nervous System HI =	5E+00
Total Immune System HI =	N/A
Total Kidney Ht =	N/A
Total Blood Hi =	N/A
Total Growth HI =	N/A
Total Liver HI =	N/A

TABLE 9.37.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemics	Chemical Carcinogenic Risk Young Child + Adult					Chemical		Non-Card	inogenic Hazar Young Child	rd Quatient	
					Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwaler	Groundwater	ľ	Arsenic Manganese		3E-04 N/A			3E-04 N/A	Arsenic Manganese	Skin Nervous System	1E+01 3E+00			1E+01 3E+00
				(total)	3E-04		••	3E-04	(Total)		1E+01		٠.	1E+01
Total Risk Across All Media and All Exposure Routes								3E-04	Total Hazard Index Across All Media and All Exposure Routes				1	

-- = Not Evaluated

Total Skin HI ≠	1E+01
Total Nervous System HI =	3E+00
Total Immune System HI =	N/A
Total Kidney HI =	N/A
Total Blood HI =	N/A
Total Growth HI =	N/A
Total Liver HI =	N/A

TABLE 9,38,RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population; Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog Young Ch			Chemical Non-Carcinogenic Haz			inogenic Hazaı Young Child		
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	On-Site Monitoring Well	1,3-Dichlorobenzene	N/A			N/A	1,3-Dichlorobenzene	N/A	7E+02	••	••	7E-02
		MW-114U	1,4-Dichlorobenzene	3E-06			3E-06	1,4-Dichlorobenzene	N/A	3E+02	••		3E-02
			Chlorobenzene	N/A		••	N/A	Chlorobenzene	Liver	2E-01			2E-01
			Tetrachloroethylene	7E-05			7Ë-05	Tetrachioroethylene	Liver	7E-01			7É-01
			Arsenic	6E-05			6E-05	Arsenic	Skin	8E-01		••	8E-01
			Chromium	N/A		•-	N/A	Chromium	NOAEL	8E-04	••		8E-04
			Manganese	N/A	ļ		N/A	Manganese	Nervous System	4E+01			4E+01
			(total)	1E-04			1E-04	(Total)		4E+01	••	••	4E+01
			Total Risi	k Across Ali Media	and All Expos	ure Routes	1E-04	Tot	ai Hazard Index A	ross All Med	ia and Ali Expo	sure Routes	4E+01

-- = Not Evaluated

Total Skin Ht ≃	8E-01
Total Nervous System H! =	4E+01
Total Immune System HI =	N/A
Total Kldney HI ≃	N/A
Total Blood H! =	N/A
Total Growth HI =	N/A
Total Liver H1 =	9E-01

TABLE 9.38.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe; Future Receptor Population: Resident Receptor Age: Young Child (Ages 1-8)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinoge Young Chi			Chemical		Non-Card	inogenic Hazar Young Child	d Quotient	
				Ingestion Inhalation Dermal			Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	On-Site Monitoring Well	1,3-Dichlorobenzene	N/A			N/A	1,3-Dichlorobenzene	N/A	4E-02		••	4E-02
		MW-114U	1,4-Dichlorobenzene	7E-07			7E-07	1,4-Dichlorobanzene	N/A	1E-02	••	••	1E-02
			Chlorobenzene	N/A			N/A	Chlorobenzene	Liver	1E-01	••		18-01
			Tetrachloroethylene	1E-05			1E-05	Tetrachloroethylene	Liver	4E-01			4E-01
			Arsenic	1 E-0 5			1E-05	Arsenic	Skin	4E-01		••	4E-01
			Chromium	N/A			N/A	Chromium	NOAEL	5E-04	• •		5E-04
			Manganese	N/A			N/A	Manganese	Nervous System	2E+01	,-		2E+01
			(total)	3E-05			3E-05	(Total)		2E+01			2E+01
	Total Risk Across All Media and All Exposure Routes						3E-05	Total Hazard Index Across All Media and All Exposure Routes				sure Routes	2E+01

-- = Not Evaluated

Total Skin HI =	4E-01
Total Nervous System HI =	2E+01
Total Immune System HI =	N/A
Total Kldney HI ≃	N/A
Total Blood HI ≒	N/A
Total Growth HI =	N/A
Total Liver HI =	5E-01

TABLE 9.39.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCE REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future

Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk Young Child + Adult				Chemical		Non-Carc	inogenic Hazar Young Child		
				Ingestion Inhalation Dermal Exposure Routes Total				Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total	
Groundwater	Groundwater	On-Site Monitoring Well MW-B-7	Methylene chloride	3E-03			3E-03	Methylene chloride	Liver	3E+01		••	3E+01
	•		(total)	3E-03		••	3E-03	(Total)		3E+01		- •	3E+01
Total Risk Across All Media and All Exposure Routes							3E-03						

-- = Not Evaluated

Total Skin H1 ≓	N/A
Total Nervous System Hi ≈	N/A
Total Immune System HI =	N/A
Total Kidney HI =	N/A
Total Blood HI ≃	N/A
Total Growth HI ≃	N/A
Total Liver HI =	3E+01

TABLE 9.39.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe; Future Receptor Population: Resident-Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog Young Ch			Chemica)		Non-Card	ilnogenic Hazar Young Child		
				Ingestion Inhalation Dermal Exposure Routes Total				Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total	
Groundwater	Groundwater	On-Site Monitoring Well	Methylene chloride	2E-04			2E-04	Methylene chloride	Liver	6E+00			6E+00
			(total)	2E-04			2E-04	(Total)		6E+00	**	••	6E+00
Total Risk Across All Media and All Exposure Routes						2E-04	Total Hazard Index Across Ail Media and All Exposure Routes				6E+00		

-- = Not Evaluated

Total Skin HI ≠	N/A
Total Nervous System HI =	N/A
Total Immune System HI =	N/A
Total Kidney HI =	N/A
Total Blood HI =	N/A
Yotal Growth HI =	N/A
Total Liver HI =	6E+00

TABLE 9.40.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future

Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinogo Young Chi			Chemical	Non-Carcinogenic Hazard Quotient Young Child					
				Ingestion Inhalation Dermal			Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total	
Groundwater	Groundwater	On-Site Monitoring Well MW-L-3	1,4-Dichlorobenzene	2돈-07		••	2E-07	1,4-Dichlorobenzene	N/A	2E-03			2E-03	
			Hexavalent Chromium	N/A			N/A	Hexavalent Chromium	NOAEL	9E-01			9E-01	
			Arsenic	5E-04			5E-04	Arsenic	Skin	6E+00			65+00	
			Manganese	N/A		••	N/A	Manganese	Nervous System	4E+01	••	••	45+01	
[(total)	5E-04			5E-04	(Total)		5E+01	•		5E+01	
	Total Risk Across All Media and All Exposure Ro							Total Hazard Index Across All Media and All Exposure Routes				osure Routes	5E+01	

-- = Not Evaluated

Total Skin HI =	6E+00
Total Nervous System HI =	4E+01
Total Immune System HI =	N/A
Total Kidney Hi =	N/A
Total Blood Hi ≖	N/A
Total Growth HI =	N/A
Total Liver Ht =	N/A

TABLE 9.40.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future

Receptor Population; Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinoge Young Chi			Chemical		Non-Caro	inogenic Hazar Young Chiid	rd Quotient	
				Ingestion Inhalation Dermal			Exposure Routes Total		Primary Target Organ	Ingestion	inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwaler	On-Site Monitoring Well MW-L-3	1,4-Dichlorobenzene	4E-08		••	4E-08	1,4-Dichlorobenzene	N/A	1E-03			1E-03
			Hexavalent Chromium	N/A		••	N/A	Hexavalent Chromium	NOAEL	5E-01			5E-01
			Arsenic	7E-05		• •	7E-05	Arsenic	Skin	2E+00			2E+00
			Manganese	N/A			N/A	Manganese	Nervous System	2E+01			2E+01
			(total)	7E-05		••	7E-05	(Total)		2E+01			2E+01
Total Risk Across All Media and All Exposure Route							7E-05	Total Hazard Index Across All Media and All Exposure Routes					2E+01

-- = Not Evaluated

Total Skin HI =	2E+00
Total Nervous System HI =	25+01
Total Immune System HI ≃	N/A
Total Kidney HI =	N/A
Total Blood Ht =	N/A
Total Growth HI =	N/A
Total Liver HI =	N/A

TABLE 9.41.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk Young Child + Adult				Chemical		Non-Caro	inogenic Hazaı Young Child		
				Ingestion Inhalation Dermal			Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	On-Site Monitoring Well MW-L-4	Methylene chloride	8E-05			8E-05	Methylene chloride	Liver	9E-01	••		9E-01
			(lotal)				8E-05	(Total)	al) 9E-01			9E-01	
		Total Risk Across All Media and All Exposure Routes						Yotal Hazard Index Across All Media and All Exposure Routes				9E-01	

-- = Not Evaluated

Total Skin Ht ≃	N/A
Total Nervous System HI =	N/A
Total Immune System HI =	N/A
Total Kldney HI =	N/A
Total Blood HI =	N/A
Total Growth Hi =	N/A
Total Liver HI =	9E-01

TABLE 9.41.CT

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future

Receptor Population; Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk Young Child + Adult				Chemical		Non-Card	inogenic Haza Young Child		
				Ro			Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	On-Site Monitoring Well MW-L-4	Methylene chloride	5E-06			5E-06	Methylene chloride	Liver	2⋶∙01			2E-01
			(total)	5E-06		•-	5E-06	(Total)		2E-01			2E-01
Total Risk Across All Media and All Exposure Routes						ure Routes	5E-06	Total Hazard Index Across All Media and Ali Exposure Routes					2E-01

-- = Not Evaluated

N/A = Not Applicable

Total Skin Hi = N/A Total Nervous System HI = N/A Total Immune System HI = N/A Total Kidney HI = N/A Total Blood HI = N/A Total Growth Hi = N/A Total Liver HI = 2E-01

TABLE 9.42.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Resident Receptor Age: Young Child (Ages 1-8)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinogenic Risk Young Child + Adult				Chemical		Non-Card	inogenic Hazai Young Child		
					Ingestion	Inhalation	Dermal-	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	On-Site Monitoring Well MW-L-5	Thallium	(total)	2E-05 N/A 2E-05			2E-05 N/A 2E-05	Arsenic Thallium (Tota	Skin NOAEL	2E-01 1E+00 1E+00			2E-01 1E+00 1E+00
<u> </u>			<u> </u>		Across Ali Media	<u> </u>		2E-05	\ <u></u>	otal Hazard Index A	<u> </u>			1

-- = Not Evaluated

Total Skin HI ≃	2E-01
Totai Nervous System Hi =	N/A
Total Immune System HI =	N/A
Total Kidney Hi =	N/A
Total Blood HI ≈	N/A
Total Growth HI =	N/A
Total Liver HI =	N/A

TABLE 9.42.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future

Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical	ical Carcinogenic Risk Young Child + Adult				Chemical		Non-Card	inogenic Hazar Young Child	d Quotient	
				Ingestion Inhalation Dermal			Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	On-Site Monitoring Well MW-L-5	Arsenic Thallium	2E-06 N/A			2Ë-06 N/A	Arsenic Thailium	Skin NOAEL	8E-02 3E-01			8E-02 3E-01
			(total)	2E-06			2E-06	(Total)		4E-01			4E-01
		Total Risk Across All Media and All Exposure Routes						Tot	al Hazard Index A	cross All Med	dia and All Expo		4E-01

-- = Not Evaluated

N/A = Not Applicable

Total Skin HI = BE-02 Total Nervous System HI = N/A Total Immune System H1 = N/A Total Kidney HI ≈ N/A Total Blood HI = N/A Total Growth HI = N/A Total Liver HI = N/A

TABLE 9.43.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk Young Child + Adult				Chemical	Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion Inhalation Dermal Exposure Routes Total					Primary Target Organ	Ingestion	inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	On-Site Monitoring Well MW-L-7	Methylene chloride	7E-07		••	7E-07	Methylene chloride	Liver	9E-03			9E-03
			Arsenic	2E-05		••	2E-05	Arseniç	Skin	3E-01			3E-01
			Manganese	N/A			N/A	Manganese	Nervous System	4E-01			4E-01
			(total)	2E-05			2E-05	(Totai)		6E-01	••	••	6E-01
Total Risk Across All Media and All Exposure Routes 2E-05								Total Hazard Index Across All Media and All Exposure Routes 6E-				6E-01	

- - = Not Evaluated

Total Skin HI =	3E-01
Total Nervous System HI ≈	4E-01
Total immune System HI ≂	N/A
Total Kidney HI =	N/A
Total Blood HI =	N/A
Total Growth HI =	N/A
Tota! Liver HI =	9E-03

TABLE 9.43,CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	- Chemical		Carcinogo Young Chi			Chemical		Non-Card	inogenic Hazar Young Child	d Quotlent	
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater		Methylene chloride	7E-08			7E-08	Methylene chloride	Liver	3E-03		•-	3E-03
			Arsenic	4E-06			4E-06	Arsenic	Skin	1E-01			1E-01
			Manganese	N/A			N/A	Manganese	Nervous System	1E-01			1E-01
			(total)	4E-06	••		4E-06	(Total)		2E-01		••	2E-01
			Total Risi	Across All Media and All Exposure Routes 4E-06 Total Hazard Index Across All Media and All Exposu				sure Routes	2E-01				

-- = Not Evaluated

Total Skin HI =	1E-01
Total Nervous System HI ≠	1E-01
Total Immune System HI =	N/A
Total Kidney HI =	N/A
Total Blood HI =	N/A
Total Growth HI =	N/A
Total Liver HI =	3E-03

TABLÉ 9.44.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future

Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk Young Child + Adult				Chemical	Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermai	Exposure Routes Total		Primary Target Organ	Ingestion	inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	On-Site Monitoring Well MW-L-9	Methylene chloride	1E-06			1E-06	Methylene chloride	Liver	2E-02			2E-02
			Cyanide	N/A			N/A	Cyanide	Nervous System	1E-02			1E-02
			(total)	1Ë-06			1E-06	(Total)		3E-02			3E-02
Total Risk Across All Media and All Exposure Routes							1E-06	Tot	al Hazard Index A	ross All Med	ia and All Expo	sure Routes	3E-02

-- = Not Evaluated

Total Skin HI =	N/A
Total Nervous System HI =	1E-02
Total Immune System HI =	N/A
Total Kidney HI =	N/A
Total Blood HI =	N/A
Tolal Growth HI =	N/A
Total Liver HI =	2E-02

TABLE 9.44.CT

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe; Future Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk Young Child + Adult				Chemical	Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Demal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	On-Site Monitoring Well	Methylene chloride	1Ė-07			1E-07	Methylene chloride	Liver	4E-03	;		4E-03
			Cyanide	N/A			N/A	Cyanide	Nervous System	6E-03		••	6E-03
			(total)	1E-07			1E-07	(Total)		1E-02	••		1E-02
			ure Routes	1E-07	Tot	al Hazard Index Ad	ross All Med	ia and All Expo	sure Routes	1E-02			

-- = Not Evaluated

Total Skin H1 =	N/A
otal Nervous System Hi ≈	6E-03
Fotal Immune System HI =	N/A
Total Kidney HI ≈	N/A
Total Blood HI ≠	N/A
Total Growth HI =	N/A
Total Liver HI =	4E-03

TABLE 9,45.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medlum	Exposure Medium	Exposure Point	Chemica!		Carcinoge Young Chi			Chemical		Non-Card	inogenic Hazar Young Child	rd Quotient	
				Ingestion	inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermai	Exposure Routes Total
Groundwater	Groundwater	On-Site Monitoring Well MW-L-10	Methylene chloride	1E-06		••	1E-06	Methylene chloride	Liver	1 Ë -02	••		1E-02
			Arsenic	2E-05		- •	2E-05	Arsenic	Skin	3E-01		••	3 E -01
			Manganese	N/A			N/A	Manganese	Nervous System	1E+01			1E+01
			(total)	2E-05			2E-05	(Total)		1E+01			1E+01
		Total Risk Across All Media and All Exposure Routes						Across All Media and All Exposure Routes 2E-05 Total Hazard Index Across All Media and All Exp					1E+01

- - = Not Evaluated

Total Skin HI ≃	3E-01
Total Nervous System HI =	1E+01
Total Immune System HI =	N/A
Total Kidney Hi =	N/A
Total Blood HI ≕	N/A
Total Growth HI =	N/A
Total Liver HI =	1E-02

TABLE 9.45.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Resident Receptor Aga: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog Young Ch			Chemical		Non-Card	inogenic Hazar Young Child	d Quotient	
				ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	On-Site Monitoring Well MW-L-10	Methylene chloride	1E-07		••	1E-07	Methylene chloride	Liver	4E-03	 ·		4E-03
			Arsenic	5E-06			5E-06	Arsenic	Skin	2E-01	}		2E-01
			Manganese	N/A			N/A	Manganese	Nervous System	4E+00		<u> </u>	4E+00
			(totai)	5E-06		•-	5E-06	(Totai)		4E+00			4E+00
			Total Risk	Across All Media	and All Expos	ure Routes	5E-06	Tol	al Hazard Index A	cross All Me			4E+00

-- = Not Evaluated

_	
Total Skin HI =	2E-01
Total Nervous System HI =	4E+00
Totakamune System HI =	N/A
Total Kidney HI =	N/A
Total Blood HI =	N/A
Total Growth HI ≃	N/A
Total Liver HI =	4E-03

Sugar TABLE 9.46.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future

Receptor Population: Resident Receptor Age; Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog Young Ch	enic Risk		Chemical		Non-Card	inogenic Hazar Young Child		
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	On-Site Monitoring Well MW-L-11	Atrazine	3E-05		••	3E-05	Atrazine	Whole body	2E-02	•	••	2E-02
1			(total)	3E-05		**	3E-05	(Total)		2E-02			2E-02
L	 	<u> </u>	Total Risk Across Ali Media and All Exposure Routes 3E-05					Tot	al Hazard Index A	cross All Med	dia and All Expo	sure Routes	2E-02

-- = Not Evaluated

Total Skin HI =	N/A
Total Nervous System Hi =	N/A
Total Immune System HI =	N/A
Total Kidney HI =	N/A
Total Blood H! =	N/A
Total Growth HI =	N/A
Total Liver HI ≃	N/A
).	

TABLE 9.46.CT

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medlum	Exposure Point	Chemical		Cardinog Young Ch	enic Risk ild + Adult		Chemical		Non-Card	cinogenic Hazai Young Child	rd Quotient	
				Ingestion Inhalation Dermal			Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	On-Site Monitoring Well MW-L-11	Atrazine	3E-06			3E-06	Atrazine	Whole body	6E-03	• ••		6E-03
			(total)	3E-06			3E-06	(Total)	() 6E-03 G			6E-03	
\ 	···		Total Ris	k Across All Media and All Exposure Routes 3E-06				Total	al Hazard Index A	cross All Me	dia and All Expe	osure Routes	6E-03

· · ≃ Not Evaluated

Total Skin Hi ≃	N/A
l'otal Nervous System H! =	N/A
Total immune System HI =	N/A
Total Kidney HI =	N/A
Total Blood HI ≂	N/A
Total Growth HI =	N/A
Total Liver HI =	N/A

TABLE 9.47.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Fulure

Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		Cardinogo Young Chi			Chemical		Non-Carci	nogenic Hazar Young Child	d Quolient	
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	All On-Site Monitoring Wells	1,3-Dichlorobenzene	N/A		••	N/A	1,3-Dichlorobenzene	N/A	7E-02			7E-02
			1,4-Dichlorobenzene	3E-06			3E-06	1,4-Dichlorobenzene	N/A	3E-02			3E-02
			Carbon letrachioride	2E-06			2E-06	Carbon tetrachloride	Liver	1E-01	4	••	1E-01
		1	Chlorobenzene	N/A			N/A	Chlorobenzene	Liver	2E-01			2E-01
			Methylene chloride	3E-03			3E-03	Methylene chloride	Liver	3E+01	• ••		3E+01
			Tetrachioroethylene	7E-05			7E-05	Tetrachloroethylene	Liver	7E-01			7E-01
			Alrazine	3E-05			3E-05	Atrazine	Whole body	2E-02			2E-02
	,		Pentachlorophenol	2E-06			2E-06	Pentachlorophenol	Kidney	3E-03			3E-03
			Heptachlor epoxide	2E-06			2E-06	Heplachlor epoxide	Liver	1E-01			1E-01
			Dioxin TEQ	9E-06			9E-06	Dioxin TEQ	N/A	N/A			N/A
			Hexavalent Chromium	N/A			N/A	Hexavalent Chromium	NOAEL	9E-01			9E-01
			Antimony	N/A			N/A	Antimony	Blood	8E-01			8E-01
			Arsenic	2E-03			2E-03	Arsenic	Skin	2E+01	•••		2E+01
			Chromium	N/A			N/A	Chromium	NOAEL	8E-04			8E-04
			Cyanide	N/A			N/A	Cyanide	Nervous System	1E-02		••	1E-02
			Manganese	N/A			N/A	Manganese	Nervous System	4E+01			4E+01
			Thallium	N/A			N/A	Thallium	NOAEL	9E+00			96+00
			(total)	4E-03			4E-03	(Total)		1E+02			1E+02

-- = Not Evaluated

Total Skin Ht =	2E+01
Total Nervous System HI =	4E+01
Total Immune System HI =	N/A
Total Kidney HI =	3E-03
Total Blood HI =	8E-01
Total Growth HI ≃	N/A
Tolal Liver HI =	3E+01

TABLE 9.47.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Resident Receptor Age: Young Child (Ages 1-6)/Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinogo Young Chi			Chemical		Non-Care	inogenic Hazar Young Child	d Quotlent	
				Ingestion	Inhalation	Dermal	Exposure Roules Total		Primary Target Organ	ingeslion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	All On-Site Monitoring Wells	1.3-Dichlorobenzene	N/A			N/A	1,3-Dichlarobenzene	N/A	3E-02			3E-02
			1,4-Dichlorobenzene	5E-08			5E-08	1,4-Dichlorobenzene	N/A	1E-03		••	1E-03
			Carbon tetrachloride	2E-07			2E-07	Carbon tetrachloride	Liver	4E-02		••	4E-02
			Chlorobenzene	N/A	٠.		N/A	Chlorobenzene	Liver	3E-03		• •	3E-03
			Methylene chloride	8E-06			8E-06	Methylene chloride	Liver	3E-01		••	3Ę-01
			Tetrachloroethylene	3E-07			3E-07	Tetrachloroethylene	Liver	95-03		٠-	95-03
			Alrazine	1E-06			1E-06	Alrazine	Whole body	3E-03			3E-03
			Pentachlorophenol	4E-07			4E-07	Pentachlorophenol	Кідлеу	2E-03			2E-03
				0E+00						}]
			Heplachlor epoxide	2E-07			2E-07	Heptachlor epoxide	Liver	2E-02		• •	2E-02
		İ		0E+00								1	
			Dioxin TEQ	5E-08			5E-08	Dioxin TEQ	N/A	N/A	•	• -	N/A
			Hexavalent Chromium	N/A			N/A	Hexavalent Chromium	NOAEL	1E-01	.,		1E-01
			Antimony	N/A			N/A	Antimony	Blood	1E-01			1E-01
			Arsenic	2E-05	•		2E-05	Arsenic	Skin	6E-01	••		6E-01
			Chromium	N/A	••		N/A	Chramium	NOAEL	6E-05	••	••	6E-05
			Cyanide	N/A			N/A	Cyanide	Nervous System	5E-03	!		5E-03
			Manganese	N/A			N/A	Manganese	Nervous System	3E+00			3E+00
			Thallium	N/A			N/A	Thallium	NOAEL	4E+01		••	4E-01
			(total)	3E-05			3⊑-05	(Total)		4E+00	;		4E+00
	<u> </u>		Total Riel	Across All Media a	and All Expos	ura Poules	3E-05	Tota	il Hazard Index Ad	ross All Med	lia and All Eve	sure Routes	4E+00

-- = Not Evaluated

N/A = Not Applicable

Total Skin HI ≃ 6E-01 Total Nervous System HI = 3E+00 Total Immune System HI = N/A Total Kidney HI ≃ 2E-03 1E-01 Total Blood HI = N/A Total Growth HI ≠ 3E-01 Total Liver HI ≈

TABLE 9.48.RME SUMMARY OF RÉCEPTOR RISKS AND HAZAROS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Commercial Worker Receptor Age: Aduit

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog	enic Risk		Chemical		Non-Card	Inogenic Haza	rd Quotient	
				Ingestion	Inhalation	Dermal	Exposure Roules Tolai		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soils	Soll/Sludge	Lagoon 1	1.2-Dichlorobenzene	N/A			N/A	1,2-Dichlorobenzene	NOAEL	4E-05			4E-05
			1,2-Dichloroethane	9E-09			9E-09	1.2-Oichloroethane	N/A	9€-06			9E-06
			1,3-Dichlorobenzene	N/A			N/A	1,3-Dichlorobenzene	N/A	2E-04		••	25-04
			1,4-Dichiorobenzene	3E-09			3 E- 09	1,4-Dichlorobenzene	N/A	1E-05			1E-05
			Benzene	4E-09			4E-09	Benzene	N/A	7E-05		••	7E-05
			Bromodichloromethane	6E-D9			6E-09	Bromodichloromethane	Kidney	1E-05			1E-05
			Carbon tetrachloride	1É-08			15-08	Carbon tetrachioride	Liver	4E-04			4E-04
	<u> </u>		Chlorobenzene	N/A			N/A	Chlorobenzene	Liver	2€-05	 		2E-05
	ì		Chloroform	8E-10			6E-10	Chloroform	Liver	35-05			3E-05
			Tetrachloroethylene	5E-09			5E-09	Tetrachioroethylene	Liver	3E-05			3E-05
		1	Trighlorgethene	7E-10			75-10	Trichloroethene	N/A	3E-05			3E-05
			Xylene (total)	N/A			N/A	Xylene (total)	Nervous System	1E-05			15-05
	ļ		2-Melhylnaphihalene	N/A			N/A	2-Methylnaphthalene	Body Weight	4E-04			4E-04
	1		4-Methylphenol	N/A			N/A	4-Melhylphenol	Nervous System	12-03	••	••	1E-03
	i		Benzo(a)anthracene	5É-07		2E-07	7E-07	Benzo(a)anthracene	N/A	N/A		N/A	N/A
			Benzo(a)pyrens	5E-06		2E-06	7E-06	Benzo(a)pyrene	N/A	N/A		N/A	N/A
			Naphthalene	N/A		N/A	N/A	Naphthalene	Body Weight	1E-03		3E-04	16-03
			Pentachlorophenol	1E-06		7E-07	2 E -05	Peniachlorophenol	Kidney	1E-03		6E-04	25-03
			Dieidrio	3E-08			3E-08	Dieldrin	Liver	1E-04			1E-04
:			Dioxin TEQ	8E-04		4E-05	6E-04	Dioxin TEQ	N/A	N/A		N/A	N/A
			Antimony	N/A			N/A	Antimony	Blood	8E-03			8E-03
			Arsenic	4E-06	.,	3€-07	5€-08	Arsenic	Skin	3E-02		2E-03	3E-02
			Barlum	N/A			N/A	9arlum	NOAEL	6E-03			BE-03
			Cadmlum	N/A		N/A	N/A	Cadmium	Kidney	2E-02	·	5E-03	3E-02
	1		Chromium	N/A			N/A	Chromium	NOAEL	15+01			1E+01
			Cyanide	N/A			N/A	Cyanide	Nervous System	6E-05	•••		85-05
			Manganese	N/A	ļ		N/A	Manganese	Nervous System	7E-03			7E+03
			Mercury	N/A			N/A	Mercury	Nervous System	8E-01			8E-01
			Thallium	N/A			N/A	Thaillum	NOAEL	15-01		••	1E-01
			(total)	6E-04		4E-05	7E-04	(Total)		1E+01		8E-03	1E+01
		- 10/CTO//	Total Ris	k Across All Media	and All Expos	ure Roules	7E-04	Total	al Hazard Index A	cross All Me	dia and All Exp	osure Routes	1E+01

-- = Not Evaluated
N/A = Not Applicable

Total Skin HI = 3E-02

Total Nervous System HI = 8E-01

Total Immune System HI = N/A

Total Kidney HI = 8E-03

Total Growth HI = N/A

Total Liver HI = 6E-04

TABLE 9.48.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCS CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population; Commercial Worker Receptor Age: Adult

Medium	Exposure Medium	Expasure Point	Chemical		Carcinog	enic Risk		Chemical		Non-Care	inogenic Haza	rd Quotient	
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soils	Soil/Sludge	Lagoon 1	1,2-Dichlorobenzene	N/A			N/A	1,2-Dichlorobenzene	NOAEL	2E-05			28-05
li .	1		1,2-Dichloroethane	15-09			1E-09	1,2-Dichloroethane	N/A	4E-06			4E-06
			1,3-Dichlorobenzene	N/A			N/A	1,3-Dichlorobenzene	N/A	9E-05			. 95-05
			1,4-Dichlorobenzene	4E-10			4E-10	1,4-Qichlorobenzene	N/A	5E-06			5E-06
i	1		Benzene	5E-10			6E-10	Benzene	N/A	3E-05	,		35-05
ļ.			Bromodichloromethane	1E-09			1E-09	Bromodichloromethane	Kidney	8E+06	.,	••	6 E-0 6
li	1		Carbon tetrachloride	25-09			2E-09	Carbon tetrachloride	Liver	2E-04			2E-04
li .	1	İ	Chigrobenzene	N/A	i	• • •	N/A	Chiorobenzene	Liver	7E-06		••	7E-06
1	1		Chloreform	1E-10			1E-10	Chlaroform	Liver	1E-05			1E-05
			Tetrachloroethylene	8E-10			8E-10	Tetrachloroethylene	Liver	1E-05			1E-05
1			Trichloroethene	1E-10			1E-10	Trichloroethene	N/A	1E-05			1E-05
			Xylene (total)	N/A		••	N/A	Xylene (total)	Nervous System	5E-06		••	5E-06
			2-Methylnaphihaiene	N/A			N/A	2-Methylnaphihaiene	Body Weight	2E-04			2E-04
	İ		4-Methylphenol	N/A			N/A	4-Methylphenol	Nervous System	6E-04		••	6E-04
			Benzo(a)anthracene	8E-08		55-08	1E-07	Benzo(a)anthracene	N/A	N/A		N/A	N/A
1	1		Велио(а)ругале	8E-07		5E-07	1E-06	Benzo(a)pyrene	N/A	N/A	••	N/A	N/A
1			Naphthalene	N/A		N/A	N/A	Naphthalene	Body Weight	5E-04		3E-04	8E-04
			Pentachiorophenol	2E-07		2E-07	4E-07	Pentachiorophenol	Kldney	4E-04		5E-04	9E-04
1			Dieldrin	5E-09			5E-09	Dieldrin	Liver	5E-05		••	5€-05
			Dioxin TEQ	1E-05		2E-06	2E-05	Dioxin TEQ	N/A	N/A		N/A	N/A
			Antimony	N/A		٠	N/A	Antimony	Blood	4E-03	•-	••	4E-03
	İ		Arsenic	7E-07		1E-07	8E-D7	Arsenic	Skin	1E-02	••	2E-03	1E-02
			Barlum	N/A			N/A	Barium	NOAEL	3E-03			3E-03
			Cadmlum	N/A		N/A	N/A	Cadmium	Kidney	9E-03		4E-03	1E-02
1	}		Chromium	N/A			N/A	Chromium	NOAEL	4E+00			4E+00
	1		Cyanide	N/A			N/A	Cyanide	Nervous System	2E-05		••	2E-05
	1		Manganese	N/A			N/A	Manganese	Nervous System	3E-03			3E-Q3
			Mercury	N/A		••	N/A	Mercury	Nervous System	4E-02		••	4E-02
	1		Thallium	N/A			N/A	Thallum	NOAEL	5E-02			5E-02
			(total)	2E-05		3E-06	2E-05	(Total)		5E+00	••	7E-03	5E+00
			Total Risk	Across All Media a	ind All Exposi	ure Roules	2E-05	Total Hazard Index Across All Media and All Exposure Roules					5E+00

- · = Not Evaluated

N/A = Not Applicable

Total Skin HI = 1E-02

Total Nervous System HI = 4E-02

Total Immune System HI = N/A

Total Kidney HI = 1E-02

Total Blood HI = 4E-03

Total Growth HI = N/A

Total Liver HI = 3E-04

(C) (Table 9,45,CT)

TABLE 9.49.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future

Réceptor Population; Commercial Worker Receptor Age; Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog	enic Rísk		Chemical		Non-Carc	inogenic Hazai	rd Quotient	
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soils	Soil/Sludge	Lagoon 2	Acetophenone	N/A	-		N/A	Acetophenone	NOAEL	8E-07	••	• •	8E-07
			Dioxin TEQ	8E-06		6E-07	9E-06	Dioxin TEQ	N/A	N/A	••	N/A	N/A
i			Arsenic	2E-06		2E-07	2E-06	Arsenic	Skin	1E-02		1E-03	2E-02
			Cadmium	N/A		N/A	N/A	Cadmium	Kidney	2É-03		5E-04	3E-03
	ļ		Chromium	N/A			N/A	Chromium-	NOAEL	2E-01			2E-01
i			Cyanide	N/A			N/A	Cyanide	Nervous System	9E-05			9E-05
			Manganese	N/A		••	N/A	Manganese	Nervous System	2E-02		••	2E-02
i			Mercury	A\N			N/A	Mercury	Nervous System	4E-03		• -	4E-03
ļ			Thallium	N/A			N/A	Thailium	NOAEL	2E-02			2E-02
			(total)	1E-05		7E-07	1E-05	(Total)	<u> </u>	2E-01		1E-03	2E-01
\ 	·····		Total Risi	Across All Media	and All Expos	ure Routes	1E-05	То	tal Hazard Index A	ross All Med	ia and All Expo	sure Routes	2E-01

-- = Not Evaluated

N/A = Not Applicable

Total Skin HI = 2E-02 Total Nervous System HI = 3E-02 Total Immune System HI = N/A Total Kidney HI ≂ 3E-03 ·Total Blood HI = N/A Total Growth HI = N/A Total Liver HI =

TABLE 9.49.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future

Receptor Population: Commercial Worker Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog	enic Risk		Chemical		Non-Card	inogenic Haza	ızard Quotient		
				Ingestion	inhalation	Dermal	Exposure Routes Total		Primary Target Organ	ingestion	Inhalation	Dermal	Exposure Routes Total	
Soils	Soil/Sludge	Lagoon 2	Acetophenone	N/A			N/A	Acetophenone	NOAEL	3E-07			3E-07	
			Dioxin TEQ	1E-06		2E-07	1E-06	Dioxin TEQ	N/A	N/A		N/A	N/A	
			Arsenic	4E-07		5E-08	4E-07	Arsenic	Skin	6E-03	••	9E-04	7E-03	
l			Cadmium	N/A		N/A	N/A	Cadmium	Kidney	9E-04		4E-04	1E-03	
]			Chromium	N/A			N/A	Chromium	NOAEL	8E-02		••	8E-02	
			Cyanide	N/A			N/A	Cyanide	Nervous System	4E-05		••	4E-05	
[Manganese	N/A			N/A	Manganese	Nervous System	1E-02			1E-02	
l			Mercury	N/A			N/A	Mercury	Nervous System	2E-03			2E-03	
			Thallium	N/A			N/A	Thallium	NOAEL	1E-02			1E-02	
			(total)	2E-06		2E-07	2E-06	(Total)	, , , , , ,	1E-01		1E-03	1E-01	
<u> </u>			Total Ris	k Across All Media	and All Expos	ure Routes	2E-06	То	tal Hazard Index A	cross All Med	lia and All Exp	sure Routes	1E-01	

-- = Not Evaluated

N/A ≈ Not Applicable

Total Şkin HI = 7E-03 Total Nervous System H1 = 1E-02 Total immune System HI = . N/A Total Kidney Hi = 1E-03 Total Blood HI = N/A Total Growth HI = N/A Total Liver HI = N/A

TABLE 9,50,RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future

Receptor Population: Commercial Worker Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinogo	enic Risk		Chemical	Non-Carcinogenic Hazard Quotient					
				Ingestion	Inhalation	Dermal	Exposure	1	Primary	Ingestion	Inhalation	Dermal	Exposure	
							Routes Total		Target Organ				Routes Total	
Solls	Soil/Sludge	Lagoon 3	Dioxin TEQ	1E-04		9E-06	1E-04	Dioxin TEQ	N/A	N/A		N/A	N/A	
			Antimony	N/A		••	N/A	Antimony	Blood	7E-03			7E-03	
			Arsenic	4E-06		3E-07	5E-06	Arsenic	Skin	3E-02		2E-03	3E-02	
			Cadmium	N/A		N/A	N/A	Cadmium	Kidney	4E-02		1E-02	5E-02	
			Chromium	N/A			N/A	Chromium	NOAEL	6E+00			6E+00	
l l			Manganese	N/A			N/A	Manganese	Nervous System	2E-02			2E-02	
			Mercury	N/A			N/A	Mercury	Nervous System	1E-01			1E-01	
			Thallium	N/A			N/A	Thallium	NOAEL	7E-03		• •	7E-03	
L			(total)	1E-04		1E-05	1E-04	(Total)		6 E+ 00		1E-02	6E+00	
			Total Ris	sk Across All Media	and All Expos	ure Routes	1E-04	Total Hazard Index Across All Media and All Exposure F			osure Routes	6E+00		

-- = Not Evaluated

N/A = Not Applicable

Total Skin HI = 3E-02 Total Nervous System HI ≈ 1E-01 Total Immune System HI = N/A Total Kidney Hi = 5E-02 Total Blood HI ≃ 7E-03 Total Growth HI = N/A Total Liver HI ≤

TABLE 9.50.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future

Receptor Population: Commercial Worker Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog	enic Risk		Chemical	Non-Carcinogenic Hazard Quotient						
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total		
Soits	Soil/Sludge	Lagoon 3	Dioxin TEQ	2E-06		3E-07	2E-06	Dioxin TEQ	N/A	N/A		N/A	N/A		
			Antimony	N/A			N/A	Antimony	Blood	3E-03		,	3E-03		
	1		Arsenic	7E-07		9E-08	8E-07	Arsenic	Skin	1E-02	••	2E-03	1É-02		
ļ			Cadmium	N/A		N/A	N/A	Cadmium	Kidney	2E-02		8E-03	3É-02		
			Chromium	N/A			N/A	Chromium	NOAEL	7 E- 01			7E-01		
			Manganese	N/A		••	N/A	Manganese	Nervous System	1E-02	• •		1E-02		
			Mercury	N/A			N/A	Mercury	Nervous System	5E-02	••		5 €- 02		
			Thailium	N/A			N/A	Thailium	NOAEL	38-03			3E-03		
			(total)	3E-06		4E-07	3∈-06	(Total)	8E-01	•-	1E-02	8E-01		
			Total Ri	sk Across All Media	and All Exposi	ure Routes	3E-06	То	tal Hazard Index A	cross All Med	ila and All Expo	osure Routes	8È-01		

-- = Not Evaluated

N/A = Not Applicable

Total Skin HI = 1E-02 Total Nervous System Hi = 65-02 Total Immune System HI = N/A Total Kidney Hi = 3E-02 Total Blood HI = 3E-03 Total Growth HI = N/A Total Liver HI = N/A

TABLE 9.51,RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Commercial Worker Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog	enic Risk		Chemical		Non-Card	inogenic Hazar	d Quotient	
				Ingestion	inhalation	Dermal	Exposure	1	Primary	Ingestion	Inhalation	Dermal	Exposure
			<u> </u>				Routes Total		Target Organ				Routes Total
Soils	Soil/Sludge	Lagoon 4	Benzo(a)anthracene	5 E- 08		2 E -08	7E-08	Benzo(a)anthracene	N/A	N/A		N/A	N/A
	_	_	Benzo(a)pyrene	5E-07		2E-07	7E-07	Benzo(a)pyrene	N/A	N/A		N/A	N/A
			Benzo(b)fluoranthene	5E-08		2E-08	7E-08	Benzo(b)fluoranthene	N/A	N/A		N/A	N/A
			Dibenz(a,h)anthracene	5E-07		2E-07	7E-07	Dibenz(a,h)anthracene	N/A	N/A	*-	N/A	N/A
			Indeno(1,2,3-cd)pyrene	5E-08		2Ē-08	7E-08	Indeno(1,2,3-cd)pyrene	N/A	N/A		N/A	N/A
			Naphthalene	N/A		N/A	N/A	Naphthalene	Body Weight	1E-05		3E-06	1E-05
			Pentachlorophenol	2 €- 08		1E-08	4E-08	Pentachlorophenol	Kldney	2E-05		1E-05	3€-05
			Dioxin TEQ	4 E- 05		3E-06	4E-05	Dioxin TEQ	N/A	N/A	••	N/A	A\N
			Arsenic	2E-06		2E-07	3E-06	Arsenic	Skin	2E-02		1E-03	2E-02
			Cadmium	N/A		N/A	N/A	Cadmium	Kidney	2E-04		5E-05	3E-04
			Chromium	N/A			N/A	Chromium	NOAEL	2E-02		•-	2E-02
			Manganese	N/A			N/A	Manganese	Nervous System	7E-03	•		7E-03
			Mercury	N/A			N/A	Mercury	Nervous System	2E-03			2E-03
			Thallium	N/A			N/A	Thallium	NOAEL	3E-02			3E-02
			(total)	4E-05		3E-06	5E-05	(Total)		8E-02		1E -0 3	8E-02
			Total Ris	k Across All Media	and All Expos	ure Routes	5Ē-05	Tot	tal Hazard Index A	cross All Med	tia and All Expo	sure Routes	8E-02

-- = Not Evaluated

Total Skin HI =	2E-02
Total Nervous System HI =	9E-03
Total immune System Hi =	N/A
Total Kldney HI ≃	3E-04
Total Blood HI =	N/A
Total Growth HI =	N/A
Total Liver HI =	N/A

TABLE 9.51.CT

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Tirneframe: Future Receptor Population: Commercial Worker Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical					Chemical		Non-Card	inogenic Haza	rd Quotient	
				Ingestion	Inhalation	Dermal	Exposure		Primary	Ingestion	Inhalation	Dermal	Exposure
		,					Routes Total		Target Organ				Routes Total
Soils	Soil/Sludge	Lagoon 4	Benzo(a)anthracene	9E-09		5E-09	1E-08	Benzo(a)anthracene	N/A	N/A	••	N/A	N/A
			Benzo(a)pyrene	9E-08		5E-08	1E-07	Benzo(a)pyrene	N/A	N/A		N/A	N/A
			Benzo(b)fluoranthene	9E-09		5E-09	15-08	Benzo(b)fluoranthene	N/A	N/A		N/A	N/A
			Dibenz(a,h)anthracene	9E-08		5E-08	1E-07	Dibenz(a,h)anthracene	N/A	N/A		N/A	N/A
			indeno(1,2,3-cd)pyrene	9E-09		5E-09	1E-08	Indeno(1,2,3-cd)pyrene	N/A	N/A		N/A	N/A
			Naphthalene	N/A		N/A	N/A	Naphthalene	Body Weight	5E-06	••	3E-06	7 €- 06
			Pentachlorophenol	4E-09		4E-09	8É-09	Pentachlorophenol	Kidney	8E-06		9E-06	2E-05
			Dioxin TEQ	1E-06		2E-07	1E-06	Dioxin TEQ	N/A	N/A	••	N/A	N/A
			Arsenic	4E-07		5E-08	4E-07	Arsenic	Skin	7E-03		9E-04	7E-03
			Cadmium	N/A		N/A	N/A	Cadmium	Kidney	1E-04		5E-05	1⊵-04
			Chromium	N/A			N/A	Chromium	NOAEL	1E-02	••		1E-02
			Manganese	N/A			N/A	Manganese	Nervous System	3E-03			3E-03
			Mercury	N/A			N/A	Mercury	Nervous System	9E-04		••	9E-04
			Thallium	N/A	4-	••	N/A	Thallium	NOAEL	1E-02			1E-02
			(total)	2E-06		3E-07	2E-06	(Total)		3E-02		1E-03	3E-02
			Total Ris	k Across All Media	and Ali Expos	ure Routes	2E-06	Tol	al Hazard Index A	cross All Med	dla and All Expe	osure Routes	3E-02

-- = Not Evaluated

Total Skin HI =	7E-03
Total Nervous System HI ≍	4E-03
Total Immune System HI =	N/A
Total Kidney HI =	2E-04
Total Blood HI =	N/A
Total Growth HI =	¹N/A
Total Liver HI =	N/A

TABLE 9.52.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Commercial Worker Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcino	genic Risk		Chemical		Non-Carc	inogenic Hazaı	rd Quotient	
	Ividulum	1 3114		Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Solls	Soil/Sludge	Lagoon 5	Benzo(a)pyrene	8E-07		2E-07	1 E- 06	Benzo(a)pyrene	N/A	N/A		N/A	N/A
			bis(2-Chloroethoxy)methane	N/A			N/A	bis(2-Chioroethoxy)methane	N/A	N/A			N/A
			Bis(2-chloroethyl)ether	1E-07			1E-07	Bis(2-chloroethyl)ether	N/A	N/A			N/A
			N-Nitroso-di-n-propylamine	1E-06		• •	1E-06	N-Nitroso-di-n-propylamine	N/A	N/A	••		N/A
			Nitrobenzene	N/A			N/A	Nitrobenzene	Blood	5E-04			5E-04
			Pentachlorophenol	3E-08		1E-08	4E-08	Pentachlorophenol	Kidney	2E-05	••	1E-05	3E-05
			Aroclor 1248	4E-08		1 E-08	6E-08	Aroclor 1248	Immune System	3E-03		9E-04	4E-03
			Dioxin TEQ	15-04		7E-06	1E-04	Dioxin TEQ	N/A	N/A	•	N/A	N/A
			Antimony	N/A		••	N/A	Antimony	Blood	2E-02			2E-02
			Arsenic	3E-06		2E-07	3E-06	Arsenic	Skin	2E-02		1E-03	2 Ē -02
			Cadmium	N/A		N/A	N/A	Cadmium	Kidney	1E-02		2E-03	1 E- 02
			Chromlum	N/A			N/A	Chromium	NOAEL	3E+00			3E+00
			Manganese	N/A			N/A	Manganese	Nervous System	2E-02			2E-02
			Mercury	N/A		• •	N/A	Mercury	Nervous System	5E-02			5€-02
		i	Thallium	N/A		••	N/A	Thallium	NOAEL	2E-01			2E-01
			(total)	1Ē-04		7E-06	1E-04	(Total)		3E+00		4E-03	3E+00
	<u></u>	<u> </u>	Total Risk A	cross All Media	and All Expos	ure Routes	1E-04	Tot	al Hazard Index Ad	cross All Med	dia and All Exp	osure Routes	3E+00

-- = Not Evaluated

N/A = Not Applicable

Total Skin HI = 2E-02 Total Nervous System HI = 6E-02 Total Immune System Hi = 4E-03 Total Kidney HI = 15-02 Total Blood HI = 2**E-**02 Total Growth HI = N/A Total Liver HI = N/A

TABLE 9.52.CT

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCS CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Commercial Worker Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcino	genic Risk		Chemical		Non-Carc	inogenic Hazar	d Quotient	
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soils	Soil/Sludge	Lagoon 5	Benzo(a)pyrene	9E-08		5Ē-08	1E-07	Benzo(a)pyrene	N/A	N/A		N/A	N/A
1			bis(2-Chloroethoxy)methane	N/A			N/A	bis(2-Chioroethoxy)methane	N/A	N/A			N/A
il :			Bis(2-chloroethyl)ether	2E-08			2E-08	Bis(2-chloroethyl)ether	N/A	N/A			N/A
			N-Nitroso-di-n-propylamine	1E-07			1 ⊑-07	N-Nitroso-di-n-propylamine	N/A	N/A			N/A
			Nitrobenzene	N/A			N/A	Nitrobenzene	Blood	2E-04			2E-04
			Pentachlorophenoi	4E-09		5E-09	9E- 0 9	Pentachlorophenol	Kldney	9 Ë- 06		1E-05	2E-05
			Araclar 1248	7 E -09		4 É -09	1E-08	Arocior 1248	Immune System	1E-03		8E-04	2E-03
			Diaxin TEQ	2 Ē- 05		2 E -06	2E-05	Dioxin TEQ	N/A	N/A		N/A	N/A
			Antimony	N/A			N/A	Antimony	Blood	9E-03		4.	9E-03
			Arsenic	2E-07		3E-08	2E-07	Arsenic	Skin	3E-03	••	4 E- 04	4E-03
			Cadmium	N/A		N/A	N/A	Cadmium	Kidney	4E-03		2E-03	6E-03
			Chromium	N/A			N/A	Chromium	NOAEL	1E+00		••	15+00
			Manganese	N/A			N/A	Manganese	Nervous System	7E-03			7E-03
	ĺ		Mercury	N/A			N/A	Mercury	Nervous System	6E-03	• ••		6E-03
			Thallium	N/A			N/A	Thallium	NOAEL	7E-02			7 E- 02
			(total)	2E-05		2E-06	2E-05	(Total)		1⊑+00		3E-03	1E+00
			Total Risk A	cross All Media a	and All Expos	ure Routes	2E-05	Tot	al Hazard Index Ad	cross All Med	ia and All Expo	sure Routes	1E+00

-- = Not Evaluated

Total Skin HI ≃	4E-03
Total Nervous System HI =	1E-02
Total Immune System HI =	2E-03
Total Kidney HI ≍	6E-03
Total Blood HI =	9E-03
Total Growth HI =	N/A
Total Liver Hi =	N/A

TABLE 9.53.RME SUMMARY OF RECEPTOR RISKS AND HAZAROS FOR COPCs REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Medium	Exposure Medium	Exposure Point	Chemical		Carcinogo	enic Risk		Chemical		Non-Carci	nogenic Hazar	d Quotient	
	Medibili	Folic		Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soils	Soil/Sludge	Lagoon 1	1,2-Dichlorobenzene	N/A			N/A	1,2-Dichlombenzene	NOAEL	2E-05		•-	25-05
			1,2-Dichloroelhane	2E-10			2E-10	1,2-Dichloroethane	N/A	5E-06	••		5E-06
			1,3-Dichlorobenzene	N/A			N/A	1,3-Dichlorobenzene	N/A	1E-04	••		1E-04
			1,4-Dichlorobenzene	6E-11			6 E -11	1,4-Dichlarobenzene	N/A	6E-06		••	8E-06
	!		Benzene	9E-11			9E-11	Benzene	N/A	4E-05			4E-05
		,	Bromodichioromethane	1E-10			1E-10	Bromodichloromethane	Kidney	7E-06			72-06
			Carbon tetrachioride	3E-10		••	3E-10	Carbon tetrachloride	Liver	2E-04			2€-04
	ŀ		Chlorobenzene	N/A			N/A	Chlorobenzene	Liver	9E-06	••		9E-06
			Chloroform	1E-11			1E-11	Chloroform	Liver	1E-05		••	1E-05
	1		Tetrachloroethylene	1E-10			1E-10	Tetrachloroethylene	Liver	1E-05		••	1E-05
			Trichlargethene	2E-11		••	2E-11	Trichloroethene	N/A	2E-05	,.		2 E-0 5
			Xylene (Iolal)	N/A		•-	N/A	Xylene (total)	Nervous System	6E-06			6달-06
			2-Methylnaphihalene	N/A			N/A	2-Methylnaphthalene	Body Weight	2E-04			2E-04
			4-Methylphenol	N/A	٠		N/A	4-Methylphenol	Narvous System	7E-04		•-	7E-04
			Benzo(a)anthracene	1E-08		5E-09	2E-08	Benzo(a)anthracene	N/A	N/A		N/A	N/A
			Benzo(a)pyrene	1E-07		5E-08	2E-07	Benzo(a)pyrene	N/A	N/A		N/A	N/A
			Naphthalene	N/A		N/A	N/A	Naphthalene	Body Weight	6E-04	••	3E-04	8E-04
			Pentachlorophenol	3E-08		2E-DB	5E-08	Pentachlorophenol	Kidney	5E-04		4E-04	9E-04
			Dieldrin	7E-10			7E-10	Dieldrin	Liver	6E-05			6E-05
			Dioxin TEQ	18-05		1 E -06	1E+05	Dioxin TEQ	N/A	A/A		N/A	N/A
		ļ	Antimony	N/A			N/A	Antimony	Blood	4E-03			4E-03
			Arsenic	9E-08		9E-09	1E-07	Arsenic	\$kin	1E-02	••	1€-03	2E-02
			Barium	N/A			N/A	Barlum	NOAEL	3E-03			3E-03
			Cadmium	N/A		N/A	N/A	Cadmium	Kidney	1E-02		4E-03	1E-02
			Chromium	N/A			N/A	Chromlum	NOAEL	5E+00	••		SE+00
			Cyanide	N/A			N/A	Cyanide	Nervous System	3E-05			3E-05
			Manganese	N/A			N/A	Manganese	Nervous System	4E-03			4E-03
			Mercury	N/A			N/A	Mercury	Nervous System	4E-01		4.	4E-01
			Thallium	N/A			N/A	Thaillum	NOAEL	6E-02			6E-02
	,		(total)	1E-05		1E-06	1E-05	(Tolai)		6E+00		6E-03	6E+00

TABLE 9.53.RME SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCS REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog	enic Risk		Chemical		Non-Card	inogenic Haza	rd Quotient	į
				Ingestion	Inhelation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	Lagoon 1	Arsenia	••		4E-10	4E-10	Arsenic	Skin			7E-05	7€-05
			Manganese			N/A	N/A	Мапдалеве	Nervous System	٠.		9E-03	95-03
			Mercury			N/A	N/A	Mercury	Immune System		•••	1E-04	1E-04
			Thaillum	**		N/A	N/A	Thaillum	NOAEL			2E-04	2E-04
			(total)			4E-10	4E-10	(Total)		•		1E-02	1E-02
Soil/	Alr	Lagoons (1 Ihrough 5)	1,2-Dichiprobenzene		N/A		N/A	1,2-Dichlorobenzene	NOAEL		N/A		N/A
Groundwater			1,2-Dichloroethane	**	2E-10		22-10	1,2-Dichlomethane	N/A		N/A		N/A
			1,3-Dichlorobenzene		N/A		N/A	1,3-Dichlorobenzene	N/A		N/A	••	N/A
			1,4-Dichlorobenzene	••	N/A		N/A	1,4-Dichlorobenzene	N/A		2E-06		2E-06
			Benzene :	••	6E-11		6ۥ11	Benzene	N/A	٠٠.	N/A		N/A
			Bromodichloromethane	••	N/A		N/A	Bromodichloromethene	Kidney		N/A		N/A
			Carbon tetrachloride		9E-10		9E-10	Carbon tetrachioride	Liver		N/A		N/A
			Chlorobenzene		N/A		N/A	Chlorobenzene	Liver		N/A		N/A
			Chioroform	••	1E-09		1 E- 09	Chloroform	Liver		N/A		N/A
			Methylene chloride	••	8E-14		8E-14	Methylene chloride	Liver		N/A		N/A
			Telrachlomethylene		3E-11		3E-11	Tetrachloroethylene	Liver		N/A		N/A
			Trichloroethene	••	5E-11		5E-11	Trichloroethene	N/A		N/A	••	N/A
			Xylene (lotal)	••	N/A		N/A	Xylene (total)	Nervous System		N/A		N/A
			(total)		3E-09	••	3E-09	(Total)		••	2E-06	••	2E-06
				Total	Risk Across 5	Soll/Sludge *	1E-05	Tot	al Hazard Index Ad	ross All Med	lla and All Expo	sure Routes	6E+00
= Not Evalua	ated			Total Ria	sk Across Sur	face Weler	4E-10	<u> </u>					
N/A = Not Applic	able				Total Risk	Across Air	3€-09]			Т	otal Skin Hi =	2E-02
			Total Ris	k Across All Media	and All Expos	ure Routes	1E-05]			Total Nervous	System HI =	5E-01
								-			Total Immune	System HI =	1E-04
											Tota	at Kidney HI ≒	2E-02
			,					-			То	tal Blood HI ⊐	4E-03
											Tota	al Growth HI =	N/A
											Т	otal Liver HI =	3E-04

TABLE 9.53.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog	enic Risk		Chemical		Non-Carc	inogenic Haza	d Quallent	
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Targel Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Solls	Soil/Sludge	Lagoon 1	1,2-Dichlorobenzene	N/A			N/A .	1,2-Dichlombenzene	NOAEL	8E-08	••	••	BE-06
,	İ		1,2-Dichloroethans	6E-11			6 2- 11	1,2-Dichloroethane	N/A	2E-06	٠.	••	2E-06
			1,3-Dichlorobenzene	N/A			N/A	1,3-Dichiorobenzene	N/A	4E-05			4E-05
			1,4-Dichlorobenzene	2E-11		:	25-11	1,4-Dichlorobenzene	N/A	2E-06			2E-06
			Benzene	3E-11	· · ·		3E-11	Benzene	N/A	1E-05	•••	• •	1E-05
			Bromodichloromethane	4E-11		•• .	4 E-11	Bromodichloromethane	Kildney	2E-06		•-	2E-06
	1		Carbon tetrachioride	9É-11			9E-11	Carbon tetrachloride	Liver	7E-05	- -	••	7ۥ05
			Chlorobenzene	N/A			N/A	Chlombenzene	Liver	3E-06			3E-06
	}		Chiaroform	4E-12			4E-12	Chloreform	Liver	5E-06			5E-06
			Tetrachioroethylens	4E-11		••	4E-11	Tetrachloroethylene	Liver	5E-06			5€-06
	ļ		Trichlorpethene	5E-12		••	5E-12	Trichloroethene	N/A	5E-06			5E-06
			Xylene (total)	N/A	'		N/A	Xylene (total)	Nervous System	2E-06			25-06
			2-Methylnaphihalene	N/A			N/A	2-Methylnaphthalene	Body Weight	6 £- 05			6E-05
			4-Methylphenol	N/A			N/A	4-Methylphenol	Nervous System	25-04			28-04
			Benzo(a)anthracene	4E-09		2E-09	5E-09	Benzo(a)anthracene	N/A	N/A		N/A	N/A
			Benzo(a)pyrene	4E-08		2E-08	5E-08	Benzo(a)pyrene	N/A	N/A		N/A	N/A
			Naphthalene	N/A		N/A	N/A	Naphthalene	Body Weight	2E-04		BE-05	3E-04
			Pentachiorophenol	9E-09		7E-09	2E-08	Pentachlorophenol	Kidney	25-04		1E-04	3⊑-04
			Dieldrin	2E-10			2E-10	Dieldrin	Liver	2E-05			2E-05
			Dioxin TEQ	7€-07		7E-08	7E-07	Dioxin TEQ	N/A	N/A	••	N/A	N/A
			Antimony	N/A			N/A	Antimony	Blood	1 E- 03		•	1E-03
	1	,	Arsenic	3€-08		3E-09	3E-08	Arsenic	Skin	5E-03		5E-04	5E-03
	1		Barlum	N/A		٠	N/A	Barlum	NOAEL	1E-03	••	••	1E-03
		1	Cadmlum	N/A		N/A	N/A	Cadmium	Kidney	4E-03		1E-03	5E-03
			Chromium	N/A			N/A	Chramium	NOAEL	2E+00			2E+00
			Cyanide	N/A			N/A	Cyanide	Nervous System	1E-05	•	.,	1E-05
	1		Manganese	N/A			N/A	Manganese	Nervous System	1E-03			1E-03
		1	Mercury	N/A			N/A	Mercury	Nervous System	2E-02			2E-02
			Thallium	N/A			N/A	Thaillum	NOAEL	2E-02			2E-02
			(total)	7E-07		9E-08	8E-07	(Total)		25+00		2E-03	2E+00

TABLE 9.53,CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Utility Worker Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog	jenic Risk		Chemical		Non-Carc	inogenic Hazar	d Quotient	
				Ingestion	Inhalalion	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Roules Total
Surfece Water	Surface Water	Lagoon 1	Arsenic			7E-11	7E-11	Arsenic	Şkin			1€-05	15-05
			Manganese	••		N/A	N/A	Manganese	Nervous System			2E-03	2E-03
			Mercury			N/A	N/A	Mercury	Immune System		••	2E-05	2E-05
			Thellium			N/A	N/A	Thaillum	NOAEL			3E-05	3E-05
			(total)			7E-11	7E-11	(Total)		••	••	2E-03	2E-03
5cil/	Air	Lagoons (1 through 5)	1,2-Dichlarobenzene		N/A		N/A	1,2-Dichlorobenzene	NOAEL		N/A		N/A
Groundwater			1,2-Dichloroethane	-•	6E-11		6E-11	1,2-Olchloroethane	N/A		N/A		N/A
			1,3-Dichlorobenzene		N/A		N/A	1,3-Dichlorobenzene	N/A	••	N/A		N/A
			1,4-Dichlorobenzene	••	N/A		N/A	1,4-Dichlorobenzene	N/A		7E-07		7E-07
			Benzene		2E-11		2€-11	Benzene	N/A	••	N/A		N/A
			Bromodichlommethane	4.	N/A		N/A	Bromodichloromethane	Кідпеу		N/A		N/A
			Carbon tetrachloride		3E-10		3 É- 10	Carbon (etrachloride	Liver		N/A		N/A
			Chiorobenzene		N/A		N/A	Chlorobenzene	Liver	•-	N/A		N/A
			Chloroform	••	5E-10		5E-10	Chloroform	Liver		N/A		N/A
			Methylene chloride		3E-14		3E-14	Methylene chloride	Liver		N/A		N/A .
			Tetrachloroethylene		9E-12		9€-12	Tetrachloroethylene	Liver		N/A		N/A
			Trichloroethene	••	2E-11		2E-11	Trichloroethene	N/A		N/A		N/A
			Xylene (total)		N/A		N/A	Xylene (total)	Nervous System		N/A		N/A
			(total)	•••	9E-10		9 E-1 0	(Total)		•••	7E-07		7E-07
		•		Total	Risk Across	Soil/Sludge	8E-07	Total	el Hazard Index Ad	ross All Med	ia and Ali Expo	sure Routes	2E+00
= Not Evalua	ated			Total Ris	k Across Su	face Water	7E-11]					
N/A = Not Applic	cable				Total Risk	Across Air	95-10]} .			To	otal Skin HI =	5E-03
			Total Rist	k Across All Media a	and All Expos	ure Roules	8E-07				Total Nervous	System HI =	2E-02
								크			Total Immune	System HI =	2E-05
												i Kldney HI ×	5E-03
											Tot	tal Blood HI =	1E-03
											Tota	i Growth HI =	N/A
											To	stal Liver HI =	1E-04

S [Table 9,53,CT]

TABLE 9.54.RME SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCS REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog	énic Risk		Chemical		Non-Card	inogenic Hazar	d Qualient	
	Mediam	Point	:	Ingestion	Inhalation	Dermai	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Roules Total
Sails	Soil/Sludge	Lagoon 2	Acatophenone	N/A			N/A	Acetophenone	NOAEL	4E-07			4E-07
			Dioxin TEQ	2E-07		2E-08	2E-07	Dloxin TEQ	N/A	N/A		N/A .	N/A
			Arseni¢	SE-08		5E-09	5E-06	Arsenic	Skin	B €- 03		6E-04	8E-03
			Cadmium	N/A		N/A	N/A	Cadmlum	Kidney	1E-03		4E-04	2E-03
			Chromium	N/A			N/A	Chromium	NOAEL	1E-01		••	1E-01
			Cyanide	N/A			N/A	Cyankie	Nervous System	5E-05			5E-05
			Мапрапеве	N/A			N/A	Manganese	Nervous \$ystem	1E-02		••	1E-02
			Mercury	N/A		••	N/A	Mercury	Nervous System	2E-03			2E-03
			Thallium	N/A			N/A	Thallium	NOAEL	1E-02		••	1E-02
			(tolai)	2E-07		2E-08	2E-07	(Total)		1E-01	••	1E-03	1E-01
Surface Water	Surface Water	Lagoon 2	Dioxin TEQ	••		3E-08	3E-0 8	Dioxin TEQ	N/A			N/A	N/A
		<u> </u>	Manganese			N/A	N/A	Manganese	Nervous System			7E-03	7E-03
			(total)	••		3E-08	3E-08	(Total)	110,1000 0,010.11			7E-03	7E-03
Sail/	Alr	Lagoons (1 through 5)	1,2-Dichlorobenzene	•••	N/A		N/A	1,2-Dichlorabenzene	NOAEL		N/A	••	N/A
Groundwater			1,2-Dichloroethane		2E-10	••	2E-10	1,2-Dichloroethane	N/A	'	N/A		N/A
			1,3-Dichlorobenzene		N/A		N/A	1,3-Dichlorobenzene	N/A		N/A	••	N/A
			1,4-Dichlorobenzene	••	N/A		N/A	1,4-Dichlorobenzene	N/A	••	2E-06		25-06
			Benzene		6E-11		8E-11	Benzene	N/A		. N/A	••	N/A
			Bromodichloromethane		N/A		N/A	Bromodichloromethane	Kidney		N/A	••	N/A
			Carbon tetrachloride		9E-10		9E-10	Carbon tetrachioride	Liver		N/A	**	N/A
			Chlorobenzene		N/A		N/A	Chlorobenzene	Liver		N/A	••	N/A
			Chlaroform		1£-09	"	1E-09	Chloroform	Liver		N/A		N/A
•			Methylene chloride		8E-14		8E-14	Methylene chloride	Liver		N/A	••	N/A
			Tetrachloroethylene	••	3E-11	"	3E-11	Tetrachloroethylene	Liver		N/A		N/A
			Trichloraethene	••	5E-11		5E-11	Trichloroethene	N/A		N/A N/A		N/A N/A
			Xylene (total) (total)		N/A JE-09		N/A 3E-09	Xylene (total) (Total)	Nervous System		2E-06		2E-06
	<u> </u>	<u> </u>		Tota	l Risk Across	soil/Sludge	28-07	То	al Hazard Index A	cross All Med	dia and All Exp	osure Roules	1E-01
- = Not Evalua	ated			Total R	isk Across Sur	face Water	3E-08	_					
WA = Not Appli	cable				Total Risi	Across Air	3E-09]			Т	otal Skin Hi =	8E-03
, ,			Total Ris	sk Across All Media	and All Expos	ure Routes	3E-07	3			Total Nervou	s System H1 =	2E-02
							w <u>w.t </u>	_			Total Immuni	e System HI ≈	N/A
											Tot	al Kidney Hi =	2E-03
											To	tal Blood HI =	N/A
											Tota	el Growth HI =	N/A
												otal Liver HI =	N/A

TABLE 9.54.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCS CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Futura Receptor Population: Utility Worker Receptor Aga: Adult

,	Көсөрал Ада: Ади												
Medium	Exposure Medium	Exposure Point	Chemical		Carcinog	enic Risk		Chemical		Non-Card	inogenic Haza	rd Quotlent	
				Ingestion	inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	inhalation	Dermai	Exposure Routes Total
Solls	Soli/Sludge	Lagoon 2	Acetophenone	N/A			N/A	Асвіорнепопе	NOAEL	1E-07			1E-07
			Diaxin TEQ	6E-08		6E-09	6E-08	Dioxin TEQ	N/A	N/A		N/A	N/A
			Arsenic	2E-08		2E-09	2E-08	Arsenic	Skin	3E-03		3E-04	3E-03
1			Cadmium	N/A		N/A	N/A	Cadmium	Kidney	4E-04	••	1E-04	5E-04
1			Chromium	N/A			N/A	Chromium	NOAEL	3E-02	••		3E-02
 		j	Cyanide	N/A			N/A	Cyanide	Nervous System	2E-Q5			2E-05
			Manganes e	N/A			N/A	Manganese	Nervous System	4E-03			4E-03
			Mercury	N/A			N/A	Mercury	Nervous System	7E-04			7E-04
			Thailium	N/A			N/A	Thalllum	NOAEL	4E-03			4E-03
			(total)	7E-08		7E-09	8E-08	(Total)		4E-02		4E-04	4E-02
Surface Water	Surface Water	Lagoon 2	Dioxin TEQ	••		7E-09	7E-09	Oioxín TEQ	N/A			N/A	N/A
1			Manganese			N/A	N/A	Manganese	Nervous System			1E-03	1E-03
			(tolai)			7E-09	7E-09	(Total)	Narvous System			16-03	1E-03
Soll/	Air	Lagoons (1 through 5)	1,2-Dichlorobenzene		N/A		N/A	1.2-Dichlorobenzene	NOAEL		N/A		N/A
Groundwater			1,2-Dichloroethene		6E-11		6E-11	1,2-Dichloroethane	N/A		N/A		N/A
(1,3-Dichlorobenzene	••	N/A		N/A	1,3-Dichlorabenzene	N/A	••	N/A		N/A
1			1,4-Dichlorobenzene		N/A		N/A	1,4-Dichlorobenzene	N/A		7E-07		7E-07
1			Senzene	•-	2E-11	:	2분-11	Benzene	N/A		N/A		N/A
			Bromodichloromethane		N/A	••	N/A	Bromodichloromethane	Kidney		N/A		· N/A
1			Carbon tetrachloride		3E-10	••	35-10	Carbon tetrachloride	Liver		N/A		N/A
[Chlorobenzene		N/A		N/A	Chlorobenzene	Liver	' '	N/A		N/A
1			Chloreform		5E-10		5E-10	Chloroform	Liver		N/A		N/A
			Mathylena chlorida		3E-14		36-14	Methylene chloride	Liver		N/A		N/A
			Tetrachloroethylene		9E-12		95-12	Tetrachloroethylens	Liver		N/A		N/A
			Trichicroethene		2E-11	••	2E+11	Trichloroethene	N/A		N/A		N/A
ļ l			Xylene (total)		N/A	••	N/A	Xylene (total)	Nervous System		N/A		N/A
	- 		(totai)		9E-10		9E-10	(Total)			7E-07		7E-07
					Risk Across	-	8E-08	∐ Tot	at Hazerd Index A	cross All Med	ita and All Exp	osure Roules	5E-02
= Not Evalua	ted			Total Ris	sk Across Sur	face Water	7E-09	4					,
N/A = Not Applic	able				Total Risk	Across Air	9E-10				۲	otal Skin HI =	3E-03
			Total Ris	k Across All Media	and All Expos	ure Routes	96-08				Total Nervous	s System HI =	6E-03
											Total Immune	e System HI =	N/A
											Tola	al Kidney HI =	5E-04
											To	tal Biood HI =	N/A
											Tota	ıl Growth Hl≃	N/A
												otal Liver Hi ≃	N/A

 :L6 (Table 9.54.CT)

TABLE 9.55.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCS REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Utility Worker Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog	enic Risk		Chemical		Non-Carc	inogenic Hazai	rd Quotient	
				Ingestion :	Inhalation	Dermal	Exposure	1	Primary	Ingestion	Inhalation	Dermal	Exposure
							Routes Total		Target Organ				Routes Total
Soils	Soll/Sludge	Lagoon 3	Oloxin TEQ	3E-06		3E-07	3E-06	Dioxin TEQ	N/A	N/A		N/A	N/A
			Antimony	N/A			N/A	Antimony	Blood	4E-03			4E-03
			Arsenic	9E-08		9E-09	1E-07	Arsenic	Skin	1E-02		1E-03	2E-02
			Cadmium .	N/A		N/A	N/A	Cadmium	Kidney	2E-02	••	7E-03	3E-02
:			Chramium	N/A		••	N/A	Chromium	NOAEL	3E+00			3∉+00
			Manganese	N/A	,		N/A	Manganese	Nervous System	1E-02	••		1E-02
			Mercury	N/A			N/A	Mercury	Nervous System	6E-02	••	4-	6E-02
			Thallium	N/A			N/A	Thatlium	NOAEL .	4E-03			4E-03
			(total)	3E-06		3E-07	3€-06	(Total)		3E+00		9E-03	3E+00
Soil/	Air	Lagoons (1 through 5)	1,2-Dichlorobenzene		N/A		N/A	1,2-Dichlorobenzene	NOAEL		N/A		N/A
Groundwater			1,2-Dichloroethane		2E-10		2E-10	1,2-Dichloroethane	N/A		N/A		N/A
			1,3-Dichlorobenzene		N/A		N/A	1,3-Dichlorobenzene	N/A		N/A		N/A
			1,4-Dichlorobenzene		N/A		N/A	1,4-Dichlorobenzene	N/A	••	2E-06		2 É -06
			Senzene	••	6E-11		6E-11	Benzene	N/A	••	N/A	••	N/A
			Bromodichloromethane		N/A		N/A	Bromodichloromethane	Kidney		N/A		N/A
			Carbon tetrachloride		9E-10		9E-10	Carbon tetrachloride	Liver	••	N/A	••	N/A
			Chlorobenzene		N/A		N/A	Chlorobenzene	Liver		N/A		N/A
•			Chloroform		1E-09		1⊑-09	Chloroform	Liver		N/A	••	N/A
			Methylene chloride		8E-14		8E-14	Methylene chloride	Liver	••	N/A	••	N/A
			Tetrachioroethylene		3E-11		3E-11	Tetrachloroelhylene	Liver		N/A		N/A
			Trichloroethene		5E-11		5Ę-11	Trichloroethene	N/A		N/A	**	N/A
			Xylene (total)	<u> </u>	N/A		N/A	Xylene (total)	Nervous System		N/A		N/A
			(total)		3E-09		35-09	(Total)			2E-06	••	2E-06
				Tolal	Risk Across	Soll/Sludge	3E-06	Tota	l Hazard Index Ac	ross All Med	ia and All Expo	sure Routes	3E+00

-- = Not Evaluated Total Risk Across Air 3E-09

N/A = Not Applicable Total Risk Across Ail Media and All Exposure Routes 3E-06

Total Skin HI = 2E-02

Total Nervous System HI = 7E-02

Total Immune System HI = N/A

Total Kidney HI = 3E-02

Total Blood HI = 4E-03

Total Growth HI = N/A

Total Liver HI = N/A

TABLE 9.55.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future Receptor Population: Utility Worker Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical		Carcinog	enic Risk		Chemical		Non-Carc	Inogenic Hazai	rd QualienI	
				Ingestion	Inhalation	Dermal	Exposure Roules Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soils	Soil/Sludge	Lagoon 3	Dioxin TEQ	9E-08		9E-09	1E-07	Dioxin TEQ	N/A	N/A		N/A	N/A
			Antimony	N/A	••		N/A	Antimony	Blood	1E-03			1E-03
			Arsenic	3E-08		3E-09	3E-08	Arsenic	Skin	5E-03		5E-04	5E-03
			Cadmium	N/A		N/A	N/A	Cadmlum	Kidney	7E-03		2E-03	1E-02
			Chromlum	N/A			N/A	Chromium	NOAEL	3E-01			3E-01
			Manganese	N/A			N/A	Manganese	Nervous System	4E-03			4E-03
:	[Mercury	N/A			N/A	Mercury	Nervous System	26-02			26-02
			Thallium	N/A			N/A	Thallium	NOAEL	1E-03		••	1E-03
			(tolal)	1E-07		1E-08	1E-07	(Total)		3E-01		3E-03	3E-01
Soil/	Air	Lageons (1 through 5)	1,2-Dichlorobenzene		N/A		N/A	1,2-Dichlorobenzene	NOAEL	••	N/A		N/A
Groundwater			1,2-Dichloroethane		6E-11		6E-11	1,2-Dichloroethane	N/A		N/A		N/A
	·		1,3-Dichlorobenzene	•	N/A		N/A	1,3-Dichlorobenzene	N/A		N/A		N/A
			1,4-Dichlarabenzene	••	N/A		N/A	1,4-Dichlorobenzene	N/A		7E-07		7E-07
			Benzene		2E-11		25-11	Benzene	N/A	••	N/A		N/A
			Bromodichloromethane		N/A	••	N/A	Bromodichloromethane	Kidney		N/A	••	N/A
			Carbon tetrachloride		3E-10		3E-10	Carbon telrachloride	Liver		N/A		N/A
			Chlorobenzene		N/A		N/A	Chlorobenzene	Liver	••	N/A	••	N/A
			Chloroform	••	5E-10	•-	5E-10	Chloroform	Liver		N/A		N/A
			Mathylene chloride	••	3E-14		3E-14	Methylene chloride	Liver		N/A	••	N/A
			Tetrachloroethylene		9E-12		9E-12	Tetrachloroethylene	Liver		N/A		N/A
			Trichloroethene	•-	28-11		2E-11	Trichloroethene	N/A		N/A	••	N/A
			Xylene (total)		N/A		N/A	Xylene (total)	Nervous System		N/A		N/A
			(total)		9E-10	- :	9E-10	(Tglai)			7E-07		7E-07
				Total	Risk Across \$	Soil/Sludge	1E-07	Tota	i Hazard Index Ac	ross All Med	ia and All Expo	sure Routes	3E-01

- - ≈ Not Evaluated Total Risk Across Air 9E-10

N/A = Not Applicable Total Risk Across Ali Media and All Exposure Routes 1E-07

Total Skin HI = 5E-03

Total Nervous System HI = 2E-02

Total Immune System HI = N/A

Total Kidney HI = 1E-02

Total Blood HI = 1E-03

Total Growth HI = N/A

Total Liver HI = N/A

09/27/20 Company

1 Augus 9.58,RME SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCS REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Present Present	Medium	Exposure	Exposure Point	Chemical		Carcinog	enic Risk		Chemical		Non-Carc	inogeníc Haze	rd Quotient	
Banded Symmes 16-09 56-00 26-09 Banded Syllmarath NA NA NA NA NA NA NA N		1404.01) SIII		Ingestion	Inhalation	Dermal				ingestion	Inhalation	Dermat	Exposure Roules Tota
Develop Flores uniques 10-09 56-01 56-	Şolls	Soil/Sludge	Lagoon 4	Benzo(a)enthracene	1E-09		5E-10	2É-09	Senzo(a)anihracene	N/A	N/A		N/A	N/A
Chee size A place showers 16-03				Benzo(a)pyrene	16.08		5E-09	2E-08	Benzo(a)pyrene	N/A	N/A		N/A	N/A
Melworld 23-actlypress 15-00 55-				Benzo(b)/luoranthena	16-09		5E-10	2E-09	Benzo(b)fluoranthene	N/A	N/A		N/A	N/A
Magnetistates Mys.				Dibenz(a,h)anthracene	1E-08		5E-09	2E-08	Dibenz(a,h)anihracene	N/A	N/A		N/A	1
Parasetricosphered 6E-10 - 4E-10 9E-10 Pentachhoropherol Midmy 9E-00 - 6E-00 2E-05				Indeno(1,2,3-cd)pyrene	1 € .09		56-10	2E-09	indeno(1,2,3-cd)pyrene	N/A	N/A	••	N/A	N/A
Down TEO		!		Naphihelene	N/A		N/A	N/A	Naphthalene	Body Weight	6E-06		2E-06	8E-06
Arseric 8E-05 - 05-09 8E-08 Arseric Sun 8E-03 - 8E-04 9E-05 E-04 Cadmium N/A 14/A N/A Cadmium N/A 14/A N/A Cadmium N/A 15-04 - 15-02 - 15-02 15-04 N/A 15-04 N/A 15-04 N/A 15-04 N/A 15-04 N/A 15-04 N/A 15-04 N/A 15-04 N/A 15-04 N/A 15-04 N/A 15-04 N/A 15-04 N/A 15-04 N/A 15-04 N/A 15-04 N/A 15-04 N/A 15-04 N/A 15-04 N/A N/A 15-04 N/A N/A 15-04 N/A N/A 15-04 N/A N/A 15-04 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A				Pentechlorophenol	5E-10		4E-10	9E-10	Pentachlorophenol	Kldney	96-06	• ••	6E-06	2É-05
Cadmium				Dioxin TEQ	8E-07		8E-08	9E-07	Dioxin TEQ	N/A	N/A		N/A	N/A
Commutum N/A N/A N/A Marganess N/A Marganess N/A Marcury N/A Marcury N/A Marcury N/A Marcury N/A Marcury N/A Marcury N/A Marcury N/A Marcury N/A Marcury N/A Marcury N/A Marcury				Arsenic	5E-05	·	5€-09	66-08	Arsenic	Skin	8E-03		6E-04	9E-03
Managanesia N/A N/				Cadmium	N/A		N/A	N/A	Cadmium	Kidney	1E-04		4E-05	2E-04
Mercury N/A N/A N/A The fillion No No No No No No No				Chromium	N/A			N/A	Chromium	NOAEL	1E-02	•••	•-	1E-02
The filtum				Manganese	N/A	٠.	••	N/A	Manganese	Nervous System	4E-03			4E-03
Company Comp				Mercury	N/A			N/A	Marcuty	Nervous System	1E-03	٠-		1E-03
Managamese				Thallium	N/A			N/A	Thaillum	NOAEL	1E-02			1E-02
Manganese N/A N/A Monganese Nervous System 1E-02				(total)	9E-07		1E-07	16-06	(Total)		4E-02	••	6E-04	4E-02
Mercury	iuriace Waler	Surface Waler	Lagoon 4	Dioxin TEQ			JE-09	JĘ∙09	Dioxin TEO	N/A			N/A	N/A
(total) JE-09 JE-09 (Total) IE-02				Manganese	**		N/A	N/A	Monganese	Nervous System			15-02	1E-02
Air Lagoons (1 through 5) 1,2-Olchlorobenzene N/A N/A 1,2-Dichlorobenzene N/A N/A 1,2-Dichlorobenzene N/A				Mercury			N/A	N/A	Mercury	immune System			8E-05	8E-05
1,2-Olchiorosthane				(total)			35-09	3E-09	(Total)				1E-02	1E-02
1,3-Dichlorobenzene	ioli/	Air	Lagoone (1 through 5)	1.2-Oichlorobenzene		N/A	••	N/A	1,2-Dichlorobenzene	NOÁEL		N/A		N/A
1,4-Dichlorobenzene	Coundwater			1,2-Dichloroethana		2E-10		2E-10	1,2-Dichloroethans	N/A	٠	N/A		N/A
Benzene		1		1,3-Olchlorobenzene		N/A.		N/A.	1,3-Dichtorobenzene	N/A		N/A		N/A
Bromodichloromethane				1,4-Dichiorobenzene	••	N/A	••	N/A	1,4-Dichlorobenzene	N/A		2E-08		2E-08
Cerbon letrachtoride CE-10 Cerbon tetrachtoride Liver N/A N/A N/A				Benzene	••	6E-11		€E-11	Benzane	N/A	.:	N/A		N/A
Chlorobenzene				Bromodichiaromethane		N/A		N/A	Bromodichloromethane	Kidney	٠٠.	N/A		N/A
Chloroform 1E-09 1E-09 Chloroform Liver N/A N/			ľ	Cerbon letrachtoride		9E-10		9E-10	Carbon tetrachioride	Liver		N/A		N/A
Methylene chloride			}	Chlorobenzene		N/A		N/A	Chlorobenzene	Liver	٠.	N/A	••	N/A
Tetrachlorosthylene				Chloreform		1E-09		1E-09	Chloroform	Liver	٠٠.	N/A		N/A
Trichloroethene 5E-11 5E-11 Trichloroethene N/A N		1		Methylene chloride		8E-14		8E-14	Methylene chloride	Liver		N/A	•• .	N/A
Xylene (total) N/A N/A Xylene (total) Norvous System N/A		1		Telfachloroethylene		3E-11		3E-11	Teirechlorophylene	Liver		N/A	••	N/A
(total) 3E-08 3E-09 (Total) 2E-06				Trichioroethene .	••	5E-11		5E-11	Trichlomethene	N/A	٠٠.	N/A	•••	N/A
Total Risk Across Soil/Siudge = Not Evaluated Total Risk Across Surface Water Total Risk Across Surface Water Total Risk Across All Media and All Exposure Routes Total Risk Across All Media and All Exposure Routes Total Risk Across All Media and All Exposure Routes Total Risk Across All Media and All Exposure Routes Total Immune System HI = 85.05 Total Immune System HI = 25.02 Total Immune System HI = 85.05 Total Risk Across All Media and All Exposure Routes				Xylene (total)		N/A	- :	N/A	Xylene (total)	Nervous System				N/A
= Not Evaluated Total Risk Across Surface Water A ≈ Not Applicable Total Risk Across All Media and All Exposure Routes Total Risk Across All Media and All Exposure Routes Total Immune System Hi ≈ 2E-06 Total Immune System Hi ≈ 2E-06 Total Immune System Hi ≈ 2E-06 Total Risk Across All Media and All Exposure Routes				(lotal)		3E-08		3E-09	(Total)	<u> </u>		2E-06		2E-06
Total Risk Across All Media and All Exposure Roules Total Risk Across All Media and All Exposure Roules Total Instrume System Hi = 2E-06 Total Instrume System Hi = 8E-06 Total Instrume System Hi = 2E-04 Total Instrume System Hi = 2E-04 Total Risk Across All Media and All Exposure Roules					Total	Risk Across	Soil/Siudge	1E-06	Total	Hazard Index Acr	rosa All Medi	le and All Expo	sure Routes	5E-02
Total Risk Across All Media and All Exposure Roules 16-06 Total Immune System Hill 26-02 Total Immune System Hill 88-05 Total Kidney Hill 26-04 Total Stidney Hill 26-04	- = Not Evalu	ated			Total Ris	k Across Sur	face Water	3E-09	_					
Total Immune System HI = 85-05 Total Kidney Hi = 25-04 Total Stood Ht = N/A	VA ≃ Nol Appl	licable				Total Risk	Across Air	3E-09]			Te	otal Skin Hi =	9E-03
Total Kidney Hi = 2E-04 Total Slood Ht = N/A				Total Risk	Across All Media	and All Expos	ure Roules	1É-08]			Total Nervous	System HI =	2E-02
Total Kidney Hi = 2E-04 Total Slood Ht = N/A									_			Total Immune	System HI =	8E-05
Total Slood Ht > N/A														2E-04
ļiuņas														

TABLE 9.56.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe; Pulure Receptor Population; Utility Worker Heceptor Age; Aduli

Medium	Exposure Medium	Exposure Point	Chemica!		Gercinog	enic Risk		Chemical		Non-Card	inogenic Haza	rd Quotlant	
				Ingestion	Inhelotion	Dermal	Exposure Roules Total		Primary Target Organ	Ingestion	Inheletion	Dermal	Exposure Roules Total
Solls	Soil/Sludge	Lagoon 4	Benzo(a)anihracane	4E-10		2E-10	6€-10	Benzo(a)anthracene	N/A	N/A		N/A	N/A
			Benzo(a)pyrene	4E-09		2E-09	6E-09	Benzo(a)pyrena	N/A	N/A	••	N/A	N/A
			Benzo(b)fluoranthene	4E-10		26-10	6E-10	Benzo(b)fluoranthene	N/A	N/A		N/A	N/A
			Dibenz(a,h)anihracene	4E-09		2E-09	6E-09	Dibenz(a,h)anthracene	N/A	N/A		N/A	N/A
			Indeho(1,2,3-cd)pyrene	4E-10		2E-10	6€-10	Indano(1,2,3-cd)pyrene	N/A	N/A		N/A	N/A
			Naphthelene	N/A		N/A	N/A	Naphthalene	Body Weight	2E-08	••	8E-07	3E-06
			Pentachlorophenol	2E-10		1E-10	35-10	Pentachlorophenol	Kidney	3E-08	••	3E-06	6E-06
			Dioxin TEQ	5E-0a		5E-09	65-08	Dioxin TEQ	N/A	N/A		N/A	N/A
;			Arsenic	25-08		2E-08	2E-08	Arsenic	Skin	3E-03	••	3E-04	3E-03
1			Cadmium	N/A		N/A	N/A	Cadmium	Kidney	45-05		15-05	5E-05
			Chromium	N/A	· ·		N/A	Chromium	NOAEL	4E-03			4E-03
			Manganese	N/A		• • •	N/A	Manganese	Nervous System	1E-03			1E-03
			Mercury	N/A	٠٠.		N/A	Mercury	Nervous Sysiem	1			4E-04
!			Theilium	N/A		:	N/A	Theillum	NOAEL	5E-03			5E-03
			(lolal)	86-98	•••	15-08	9E-08	(Total)		1E-02		35-04	1E-02
Surface Water	Surface Water	Lagoon 4	Dioxin TEQ	••		6E-10	8E-10	Oloxin TEQ	N/A			N/A	N/A
			Manganese			N/A	N/A	Manganese	Nervous System]	7E-04	7E-04
		1	Mercury			N/A	N/A	Mercury	immuna Sysiem			7E-06	7E-05
			(lotal)	••		8E-10	8E-10	(Total)				7E-04	7E-04
Soil/	Air	Lagoons (1 Ihrough 5)	1,2-Dichlorobenzene		N/A		N/A	1,2-Dichlorobehzene	NOAEL		N/A	-+	N/A
Groundwater		' ' '	1,2-Dichloroethane		6E-11		6E-11	1,2-Dichloroethane	N/A		N/A		N/A
			1,3-Dichlorobenzene		N/A		N/A	1,3-Olonlorabenzene	N/A		N/A		N/A
			1,4-Dichlorobenzene		N/A		N/A	1,4-Dichlorobanzene	N/A		7E-07		7E-07
		ļ	Benzens		2E-11		ZE-11	Senzens	N/A		N/A		N/A
			Bromodichloromethane		N/A		N/A	Bromodichloromethane	Kidney	٠.	N/A	٠,,	N/A
			Carbon tetrachioride	••	36-10		3Ę-10	Carbon tetrachtoride	Liver		N/A		N/A
		1	Chlorobenzene		N/A		N/A	Chlorobenzene	Liver		N/A		N/A
			Chloratorm		5 £- 10		56.10	Chloroform	Liver		N/A		N/A
			Methylene chloride		3E-14		3E-14	Melhylene chloride	Liver		N/A		N/A
			Tetrachtoroethylene	••	96-12		9E-12	Tetrachioroethylane	Liver		N/A		N/A
		:	Trichlordelhene		2E-11		2E-11	Trichteroethene	N/A		N/A	••	N/A
			Xylene (lotal)		N/A		N/A	Xylene (total)	Nervous System		N/A		N/A
<u> </u>			(lolel)		9E-10		9E-10	(Total)	11		7E-07		7E-07
- Not	-1-4				Risk Across Suc	-	9E-08 8E-10	a [Otal	Hazard Index Act	iuss All Mod	ia aud vii FXX	POIDOX GIUG	1E-02
= Not Evalu				(otal: Pos	k Across Sur		9E-10	4				otal Skin HI = :	25.00
N/A = Not Appli	Cabié					Across Alr	100	╡	_				3E-03
			Total Risk	Across All Media (and All Expos	ure Roules	9E-08	J	•		Total Nervous		2E-03
		-									Total Immune	-	7E-06
								-				i Kidney Hi =	6E ∙05
												al Blood Hi =	N/A
											Tota	Growth HI =	N/A

09/27/200

100

N/A

Totał Liver HI =

TA⇒LE 9.57.RME SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPC® REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

	(Naceptol Age, Aud												
Medium	Exposure Madlum	Exposure Point	Chemical		Carcinog	jenic Risk		Chamical		Non-Card	in ngenic He ž a	rd Quollent	
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Targel Organ	Ingestion	Inheletion	De/mel	Exposure Routes Total
Sofia	Sc./Sludge	Laggon 5	Sanzp(a)pyrana	2E-08		7E-09	2E-08	Вепхо(в)ругала	N/A	N/A		N/A	N/A
		1	bis(2-Chioroalhoxy)melhane	N/A		••	N/A	bis(2-Chioroathoxy)methano	N/A	N/A			N/A
		1	Bis(2-chlordethyl)ether	3E-09			3E-09	Bis(2-chloroethyf)ether	N/A	N/A			N/A
		ł	N-Nitroso-di-n-propylamine	3E-08		••	3E-08	N-Nilroso-di-n-propylamine	N/A	N/A			N/A
			Nitrobenzene	N/A		••	N/A	Nitrabenzene	Blood	2E-04			2€-04
			Penischlorophenol	5E-10		46-10	1E-09	Penischterophenol	Kidney	1E-05		9E-06	2E-05
			Aradior 1248	9E-10		4E-10	1E-09	Arocior 1248	immune System	2E-03		7E-04	2E-03
			Dioxin TEQ	2E-06		2E-07	2E-08	Dioxin TEQ	N/A	N/A		N/A	N/A
			Anlimany	N/A			N/A	Anlimany	Blood	16-02			1E-02
		1	Arzenic	e∉.D8		5E-09	66-08	Arsenic	Skin	9E-03		9E-04	9€-03
			Gadmium	N/A		N/A	N/A	Cadmium	Kidney	5E-03		2E-03	7E-00
			Chromium	N/A			N/A	Chremium	NOAEL.	1E+00			1E+00
			Малделиse	N/A		'	N/A	Mangenese	Nervous System	BE-03			8E-03
İ			Mercury	N/A		,	N/A	Mercury	Nervous System	2E-02	· · ·		2E-02
			Thellium	N/A	ļ: <u>-</u>	••	N/A	Thellium	NOAEL	8E-02	<u> </u>		8E-02
İ			{total;	25-06		28-07	25-06	(Total)		2E+00		3E-03	2E+00
Surface Water	Surface Water	Lagoun 5	Diexn TEQ			2E-08	\$E-08	Dioxin TEQ	N/A		,.	N/A	N/A
			Chromium			N/A	N/A	Chramium	NOAEL	<i>.</i> .		1E-05	1E-05
			Mangenese			N/A	N/A	Mangenese	Nervous System			2E-03	2E-03
		l	Mercury			N/A	N/A	Mercury	Immuna System			9E-05	9E-05
,			(total)			2E-08	2E-08	(Total)				2E-03	26-03
Ŝoly	Alr	annos (1 through	1,2-Dichlarobenzene		N/A		N/A	11.2-Dichlorobenzene	NOAEL		N/A		N/A
Groundwater			1,2-Dichigroethane		2E-10	:	2E-10	1.2-Dichlorgethans	N/A		N/A	l	N/A
			1,3-Dichlorobenzene		N/A		N/A	1.3-Dichlorobenzane	N/A		N/A	l	N/A
			1,4-Dichiorobanzene		N/A	٠.	N/A	1,4-Dichlorobenzene	N/A		2E-06	l	2E-06
			Benzene	l	6E-11		6E-11	Benzene	N/A		JN/A		N/A
			Bromodichloromethans		N/A		N/A	Bromodichloromethene	Kidney		N/A		N/A
			Cerbon latrachioride		9E-10	• •	9E-10	Cerbon tetrachloride	Uver		N/A		N/A
			Chlorobenzane		N/A		N/A	Chlorobenzene	Liver		N/A		N/A
		ł	Chloralarm		1E-09		1E-09	Ch'oreform	Uver		N/A		N/A
			Malhylane chlaride		8E-14	٠.,	8E-14	Methylene chloride	Liver		N/A		N/A
		1	Tetrachiprosthylene		35-11		3E-11	Tetrachioroethylens	Uver		N/A		N/A
		1	Trichiorpethene		5E-11		5E-11	Trichlorgethene	N/A		N/A		N/A
		1	Xylene (lolsi)		N/A		N/A	Xylene (lotal)	Nervous System		N/A		N/A
		<u> </u>	(letel)		3E-09		3E-08	(Tolsi)			2E-08		2E-06
	-			Total	Risk Across	Sal/Sludge	2E-06	To	lai Hazard Index A	cross All Med	dis and Ali Exp	bsure Roules	2E+00
- = Not Eyelus	uad			Total Ris	sk Across Sur	face Water	2E-08						
N/A = Not Applic	able				Total Plisk	Across Air	3E-09]			1	iotal Skin HI = .	9E-03
			Tolai F	lisk Across All Media			2E-06	1			Total Nervous		38-02
			10187				<u> </u>	Ą				System HI =	2E-03
										•		al Kidney Hi =	7E-03
												, ,	
												= IH boold fet	1E-02
												d Growth HI =	N/A
											Ť	olal Livar HI =	N/A

TABLE 9,57.CT SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPC® CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timéframe: Future Receptor Populetion: Utility Worker Receptor Ago: Adult

Medium	Exposure Medium	Exposure Point	Chemical		Cardinog	enic Risk		Chemical		Non-Care	enogenic Hazai	rd Quotient	
				Ingestion	Inhalation	Darmel	Exposure Roules Tolai		Primary Targal Organ	Ingestion	Inhalstion	Dermal	Exposure Roules Tol
Solle	SolVSludge	Lagoon 5	Benzo(e)pyrene	4E-09		2E-Q9	6E-08	Senzo(e)pyrene	N/A	N/A		N/A	N/A
			bis(2-Chlorosthoxy)mathane	N/A			N/A	bis(2-Chlorosthoxy)methene	N/A	N/A			N/A
	1		Bis(2-chlorosthyl)ether	7E-10			7E-10	Bis(2-chlorosthyl)ether	N/A	N/A	:		N/A
			N-Nitroso-di-n-propylamine	5E-09			5E-09	N-Nitrosa-di-n-propylamine	N/A	N/A			N/A
	į		Nitrobenzane	N/A			N/A	Niirobenzene	Blood	8E-05			8E-05
	ĺ		Pentachiorophenol	2E-10		16-10	3E-10	Pentechtorophenol	Kidney	4E-06		3E-06	6€-06
			Arocior 1248	3E-10		1E-10	4E-10	Araçiar 1248	immune System	5E-04	,	2E-04	8E-04
			Dioxin TEQ	7E-07		7E-08	BE-07	Dioxin TEQ	N/A	N/A		NIA	N/A
			Antimony	N/A		••	N/A	Antimony	Blood	36-03			3E-03
	1		Arsenic	8E-09		8E-10	9E-09	Arsenic	Skin	1E-03		1E-04	1E-03
	I		Cadmium	N/A		N/A	N/A	Cadmium	Kidney	2E-03		6E-04	2E-03
	I		Chromium	N/A			N/A	Chromium	NOAEL	5E-01			5E-01
	1		Manganase	N/A			N/A	Mangenese	Nervous System	3E-03			3É-03
	ł		Mercury	N/A			N/A	Mercury	Nervous System	3E-03		1.	3E-03
	1	1	Thallium	N/A			N/A	Tha! um	NOAEL	3E-02		••	3E-02
			(lotal)	76-07		7E-08	BE-Q7	(Total)		5E-01		9E-04	5E-D1
unface Water.	Surface Water	Leggon 5	Dioxin TEQ			6E-09	6E-09	Dioxin TEQ	N/A			N/A	N/A
			Chromium			N/A	N/A	Chromium	NOAEL		.,	2E-06	2E-06
			Manganese			N/A	N/A	Manganese	Nervous System	•-		4E-04	4E-04
		·	Mercury		.,	N/A	N/A	Mercury	immuna System			16-05	16-05
			(totel)	•-		6E-09	BE-CB	(Total)		.,		4E-04	4E-04
kail/	Asr	igogas (1 fhfough	1,2-Dichtorobenzene	•.	N/A		N/A	1,2-Dichiprobenzana	NOAEL		N/A	.,	N/A
iroundwater			1.2-Dichloroelhane	**	6E-11		6E-11	1,2-Dichlorgethans	N/A		N/A		N/A
		1	1,3-Qichiorobenzene		N/A		N/A	1,3-Olchioropenzene	N/A		N/A		N/A
	1		1,4-Dichlorobenzane		N/A		N/A	1,4-Dichlorobenzene	N/A		7E-07		7E-07
			Benzena		2E-11	l	2E-11	Benzene	N/A		N/A		N/A
			Bromodichioromethene		N/A		N/A	Bromodichloromethane	Kidney		N/A		N/A
		Į.	Carbon tetrachicrida		3E-10		3E-10	Carbon tetrachloride	Liver		N/A		N/A
			Chiorobenzene		N/A		N/A	Chlorobanzene	Liver		N/A		N/A
		Į.	Chioroform		5E-10		5E-10	Chloroform	Liver		N/A		N/A
	1	i	Methylane chloride		36-14		3E-14	Mathylana chiorida	Liver		N/A		N/A
			Tetrachioroethylene		86-12		9E-12	Tetrachtoroethylana	Liver		N/A		N/A
			Trichlorpethene		2E-11		2E-11	Trichloroethene	N/A		N/A		N/A
			Xylene (lotel)		N/A		N/A	Xylone (total)	Nervous System		N/A		N/A
			(lotal)	•-	9E-10		BE-10	(Total)		••	7€-07		7E-07
	1-4			Tota	Risk Acress	Soll/Sludge	8E-07	Τα	ilal Hazard Index A	cross All Me	dia end All Exp	osure Roules	5E-01
- = Not Evelu	ıaled			Total Ri	sk Across Su	face Water	8 £-0 9	_					
I/A = Not Appl	icable				Total Risi	Across Air	9E-10]			7	folal Skin Hi =	1E-03
•			Total Ri	şk Across Ali Medle	and All Expos	ure Roules	8E-07	7			Total Nervou	s System Ht =	66-03
												a System Hi ≃	8E-04
												si Kidney Hi =	2E-03
					-							kal Blood Hi =	4E-03
												al Growth H! =	N/A
													N/A

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That years